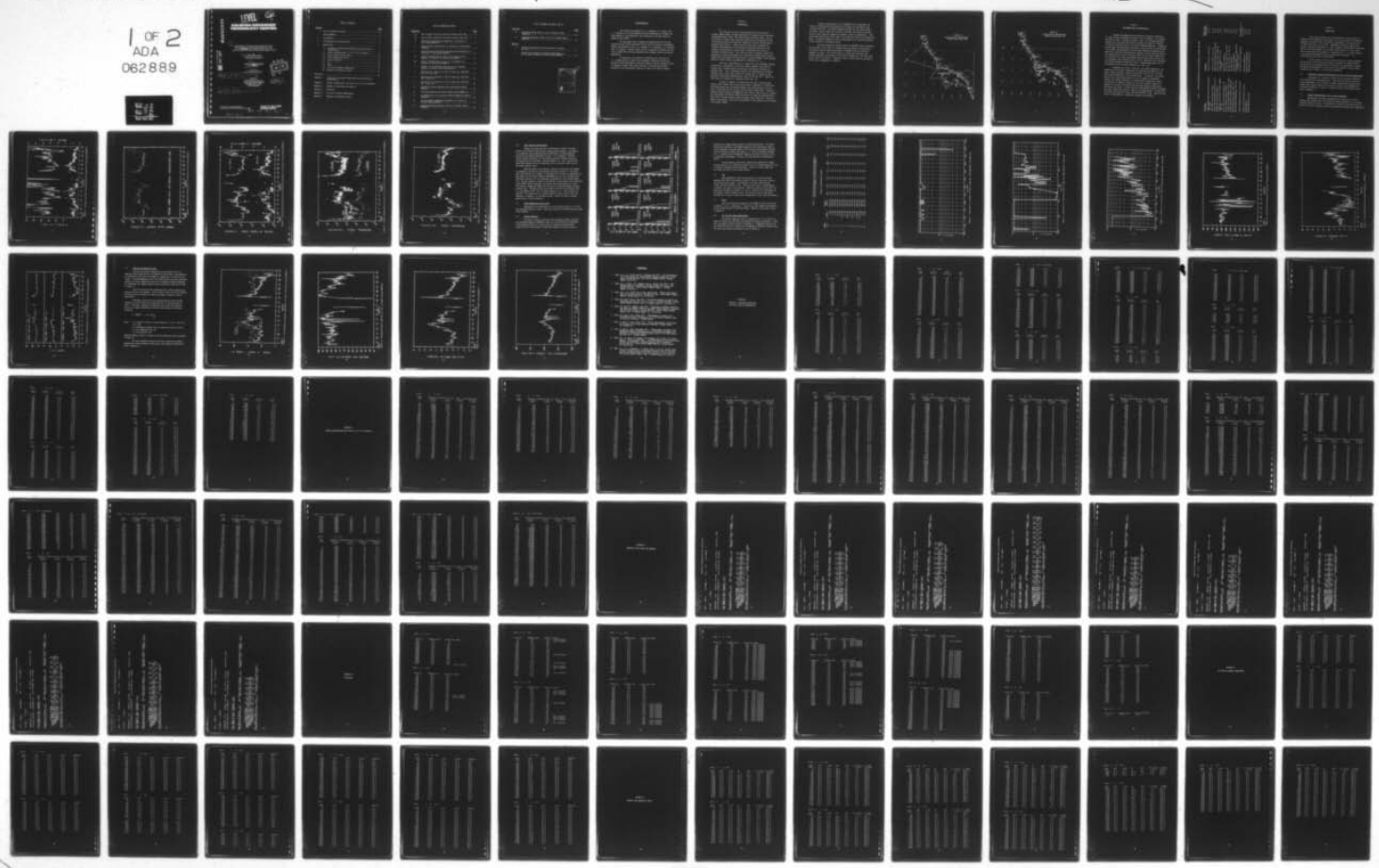
AD-A062 889 CALSPAN ADVANCED TECHNOLOGY CENTER BUFFALO NY F/G 8/10
REDUCED DATA FROM CALSPAN'S PARTICIPATION IN THE CEWCOM-78 FIEL--ETC(U)
OCT 78 E J MACK , T A NIZIOL N00019-78-C-0179
UNCLASSIFIED CALSPAN-6232-M-2 NL

1 OF 2
ADA
062889



LEVEL II

12

CALSPAN ADVANCED TECHNOLOGY CENTER

6

REDUCED DATA FROM CALSPAN'S PARTICIPATION IN THE CEWCOM-78 FIELD EXPERIMENT OFF THE COAST OF SOUTHERN CALIFORNIA DURING MAY 1978

by

10 E.J. Mack and T.A. Niziol

Calspan Report No. 6232-M-2

15 Contract No. N00019-78-C-0179

11 October 1978

Project Sea Fog
Sixth Annual Summary Report

9 Annual summary rept no 6

Prepared for:

DEPARTMENT OF THE NAVY
NAVAL AIR SYSTEMS COMMAND
WASHINGTON, D.C. 20361
CODE: AIR-370C

12 98 p.

14 CALSPAN-6232-M-2

A DIVISION OF CALSPAN CORPORATION
an Arvin Company P.O. Box 400 Buffalo, New York 14225

410 803

JOB

TABLE OF CONTENTS

LIST OF FIGURES AND TABLES

LIST OF FIGURES AND TABLES (Cont'd)

ACKNOWLEDGMENTS

The authors are indebted to R. J. Anderson, C. K. Akers, and G. A. Zigrossi, of the Environmental Sciences Department of Calspan, who participated in the preparation, data acquisition, and data reduction phases of this effort.

We would again like to express our appreciation for the fine cooperation and willing assistance of the staff at the Naval Postgraduate School, particularly to Drs. D. F. Leipper, K. L. Davidson, G. E. Schacher, and C. W. Fairall. Special thanks are due to Captain W. Reynolds and the crew of ACANIA whose willing cooperation and diligent efforts are greatly appreciated.

In particular, we gratefully acknowledge the assistance of J. L. Durham (and his staff) of the Atmospheric Chemistry and Physics Division of the Environmental Protection Agency's National Research Center at Research Triangle Park, North Carolina, in providing wavelength-dispersive X-ray fluorescence analyses of some of our aerosol samples.

Section 1

INTRODUCTION

For the past six years under sponsorship of the Naval Air Systems Command (NASC), Calspan Corporation in cooperation with the Naval Postgraduate School (NPS), the Naval Research Laboratory (NRL), and the Naval Avionics Center (NAC), has been conducting an investigation of the evolutionary processes and physical properties of marine fog and marine boundary-layer aerosols. During the first four years, attention was focused on determination of the formation mechanisms and physical and chemical characteristics of marine fogs occurring off the coasts of California and Nova Scotia. Last year the scope of Calspan's effort was expanded to include investigation of evolutionary processes which control compositional and physical characteristics of marine boundary layer aerosols. Results of these efforts are summarized in References 1-9.

This year, under Contract No. N00019-78-C-0179 from NASC, Calspan continued its contribution to the Navy's marine boundary layer physics program with a combined marine aerosol/fog investigation involving two separate Tasks. Task 1 encompassed analysis and interpretation of marine boundary layer aerosol data acquired by Calspan (Ref. 8) during the NRL-sponsored Transatlantic-Mediterranean Cruise of May-June 1977. Results of that effort are reported in a separate volume (Ref. 10).

As Task 2, Calspan in collaboration with NPS, the Naval Ocean Systems Center (NOSC), NRL and NAC participated in CEWCOM-78 to obtain data describing marine fogs and marine boundary layer characteristics off the coast of California in the vicinity of San Nicolas Island (SNI). Calspan's primary objective during the CEWCOM-78 field effort of May 1978 was to acquire data from aboard the NPS R/V ACANIA with which to assess the representativeness of SNI of clean (natural) marine boundary layer conditions. Under the scope of the contract, these data are provided in this report only in reduced, "data-volume" format.

Calspan's participation in the CEWCOM-78 field experiment was limited to observations from aboard the R/V ACANIA for the period 8 May through 24 May 1978. The ACANIA departed Monterey on 8 May and returned on 25 May. Ship's tracks for the first (8-16 May) and second (18-25 May) halves of the cruise are depicted in Figures 1a and 1b, respectively. (The dates shown along ship's track refer to the 0000 hour (PDT) of the respective days.) As shown by Figures 1a and 1b, measurements were obtained primarily in the vicinity of and upwind of SNI.

The data obtained by Calspan during the CEWCOM-78 field experiment are provided in this report in reduced form, with minimal interpretation, for objective use by other participants in CEWCOM-78 and the scientific community at large. The time histories of various meteorological and aerosol parameters are provided in the form of summary plots for the entire 16-day cruise in Section 3. Numerical values of these data are provided in hourly logs in Appendices A through F.

Figure 1a

PLOT OF SHIP'S TRACK FOR THE PERIOD 8 May-16 May 1978

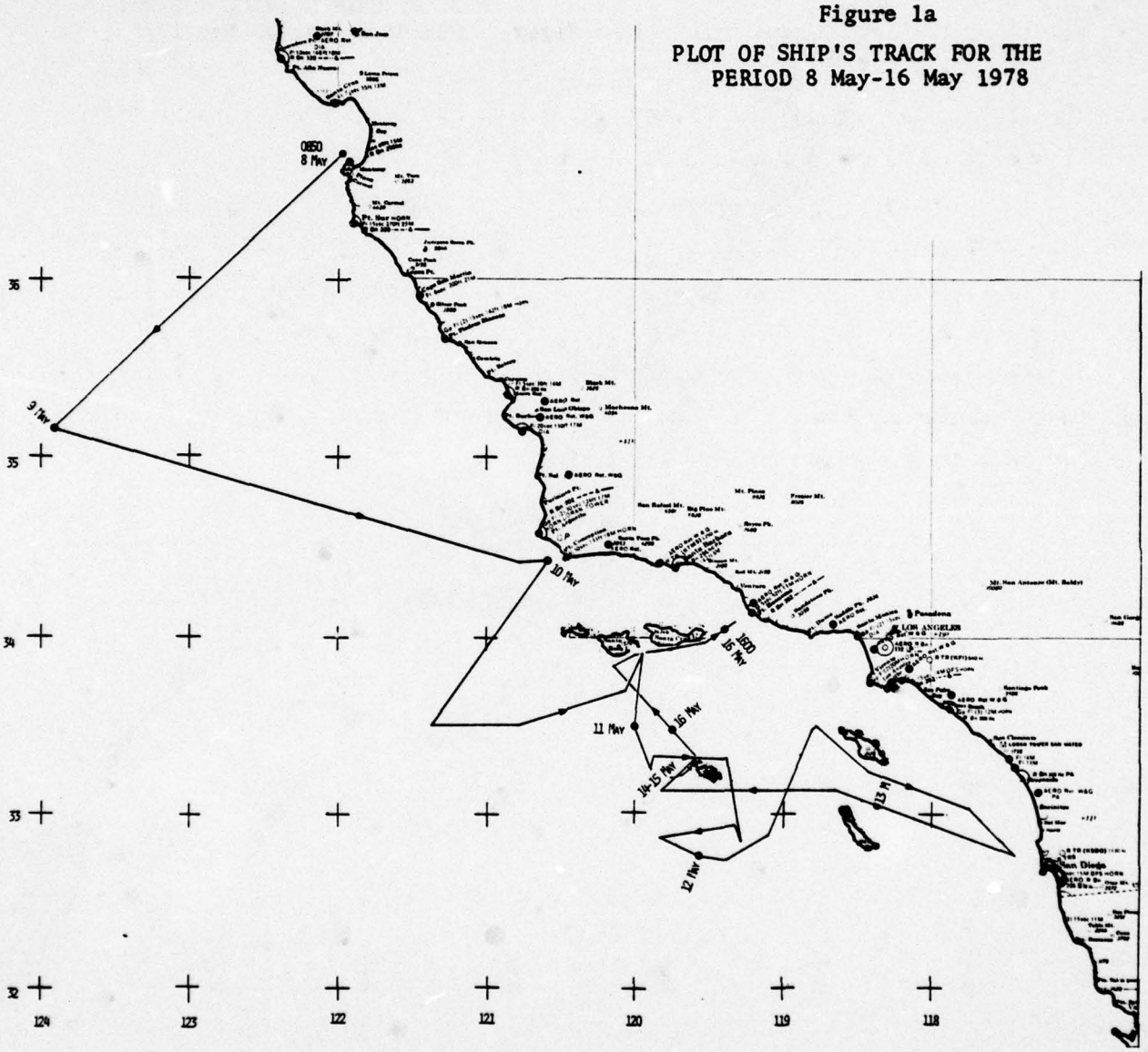
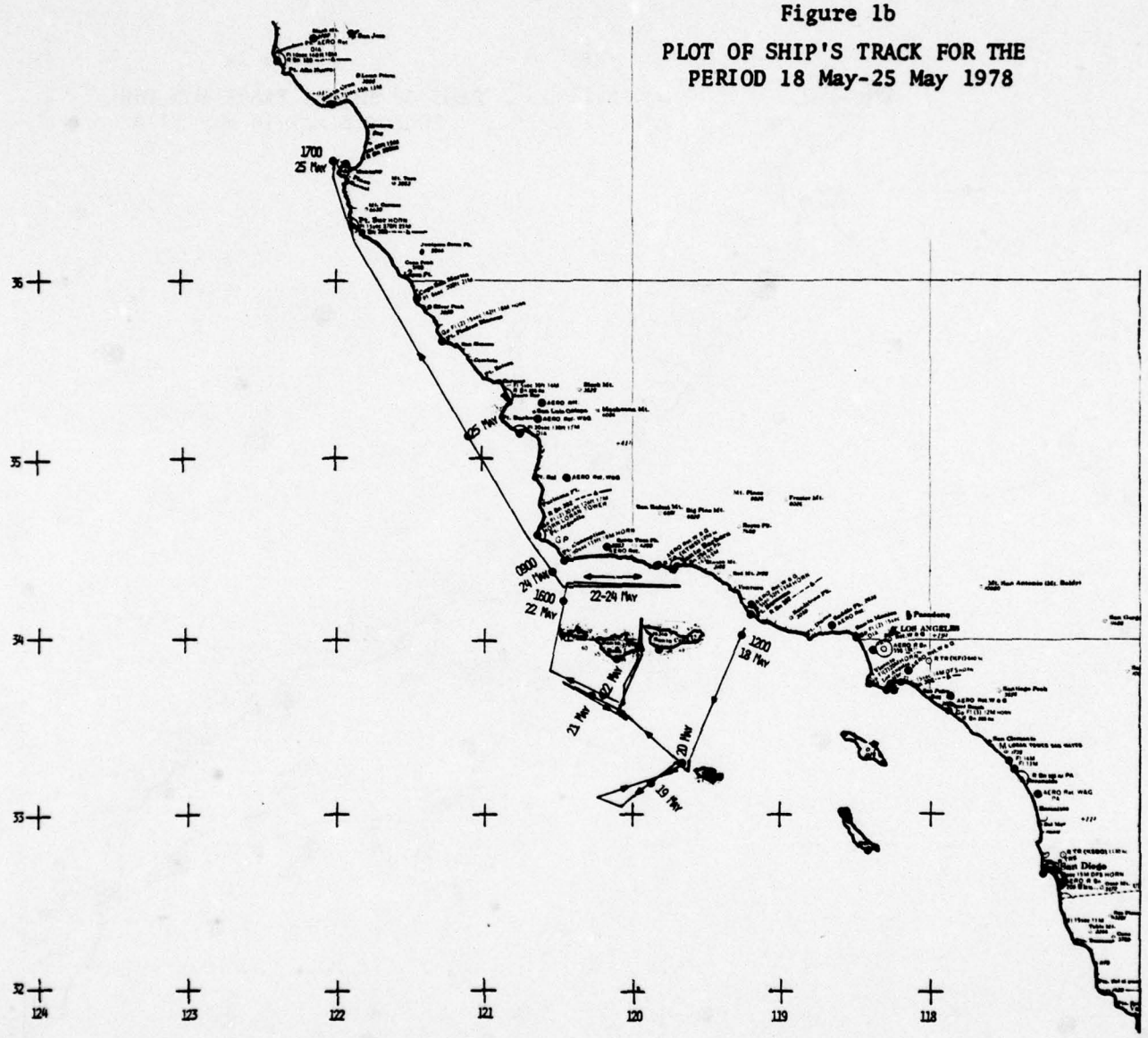


Figure 1b

PLOT OF SHIP'S TRACK FOR THE PERIOD 18 May-25 May 1978



Section 2

INSTRUMENTATION AND OBSERVATIONS

Calspan instrumentation was delivered to Monterey, California, on 2 May 1978 and subsequently installed on the R/V ACANIA, at the heights indicated in Table 1, during the period 3-7 May. The Calspan atmospheric research van was hoisted onto the bow of ACANIA and housed all recorders, a clear-air visibility monitor, and aerosol sampling apparatus. Temperature and dew point instrumentation was mounted on the 20 m tower on the foredeck of the ACANIA; fog microphysics and sea spray sampling instrumentation was mounted on a specially-constructed bow platform; the fog visibility monitor was installed on the roof of the pilot house; and sea surface temperature was monitored from a specially-designed vehicle towed along side the ship. All instruments were calibrated prior to ship's departure, and calibrations were checked frequently during the cruise. Detailed descriptions of the instrumentation may be found elsewhere (e.g., Ref. 1-4).

Throughout the cruise, visibility, sea surface temperature, air temperature and dew point temperature were monitored continuously; true winds, relative humidity, aerosol size spectra (0.01-0.75 μm), and total particulate concentration were recorded hourly. In addition, 120 measurements of the cloud nucleus spectra, 15 hi-vol samples of atmospheric aerosols (for chemical analysis), 23 electrostatic precipitator samples (of aerosols for chemical analysis by size) and 51 droplet samples for analysis of sea spray size spectra were obtained during non-fog periods. Three minor fog events, in which visibility degraded below 6000 m (including six hours of fog with visibility <1000 m), were encountered: 2115-0230 PDT, 13-14 May; 0650-1100 PDT, 14 May; and 0120-1030 PDT, 19 May. During the fog events, 29 measurements of droplet size spectra were obtained.

Table 1: CALSPAN INSTRUMENTATION UTILIZED ABOARD R/V ACANIA, MAY 1978

Instrument	Parameter	Height Above Sea Surface
Thermo-Systems Electrical Aerosol Analyzer Mod. 3030	Aerosol size dist. (.01-75 μm)	5.0 m
Royco Model 225 Particle Counter	Aerosol size dist. (.3-5. μm)	5.0 m
Calspan Sea Spray Sampler (gelatin repl.)	Aqueous aerosol spectra (3.-100 μm)	3.0 m
Gardner Small Particle Detector	Total aerosol conc. (>.0025 μm)	5.0 m
Thermo-Sys. Electrostatic Aerosol Sampler, Mod. 3100	Aerosol chemistry by size (>.02 μm)	5.0 m
Hi-Vol and Lo-Vol Filter Samplers (2)	Bulk aerosol chemistry	5.0 m
Calspan Thermal Diffusion Chamber	CCN activity spectra (0.2-2.0% S)	5.0 m
Calspan Fog Droplet Sampler (gelatin repl.)	Fog drop size dist. (3.-100. μm)	3.0 m
Calspan Fog Water Collector (impaction)	Fog water chemistry	3.0 m
EG&G Forward Scatter Meter, Mod. 107	Visibility (60-6000 m)	7.5 m
MRI Integrating Nephelometer, Mod. 2050	Scattering Coeff. (.1-100x$10^{-4}m^{-1}$) Visibility (5-80 km)	5.0 m
Foxboro Temperature System (4 sensors)	Sea surface and air temperature	sea surface, 3.0, 8.5, 20.5 m
Foxboro Dew Point System (1 sensor)	Dew point temperature	14.5 m
Hg Thermometers	Wet/Dry bulb temperatures	5.0 m
Weather Measure Sky Vane	Wind speed and direction	10.0 m

Section 3

REDUCED DATA

To the extent possible, raw data obtained by Calspan during the CEWCOM-78 field experiment are provided in this section and in the respective appendices in reduced form, with minimal interpretation, for objective use by other participants of the study. Appropriate calibration factors were applied, and hourly observations ($\sim$ 5 min. averages centered about the indicated times) of various parameters are provided, where possible, in this volume. Data obtained during known periods of contamination (e.g., by ship's exhaust) or instrument malfunction have been filtered from the records. All indicated times are Pacific Daylight Time.

In this section, plots of the time histories of various parameters for the entire 16-day cruise are provided to acquaint the reader with the general values and temporal/spatial fluctuations of the parameters measured by Calspan during CEWCOM-78. Hourly logs of the numerical values of these parameters may be found in the respective appendices.

3.1 Visibility, Scattering Coefficient, and Total Particle Concentration

Measurements of "clear air" visibility and scattering coefficient were obtained with an MRI Nephelometer. These data are plotted in Figure 2. Hourly measurements of total particle (Aitken) concentration obtained with a Gardner Small Particle Detector are plotted in Figure 3 and compared with scattering coefficient in Figure 4. Numerical values of these data are provided in Appendix A.

3.2 Aerosol Concentrations, 0.01 to 0.75 μm Diameter

Measurements of aerosol concentrations at sizes 0.01 to 0.75 μm diameter were obtained with a TSI Electrical Aerosol Analyzer at 10 to 20 min. intervals during the cruise. Concentrations at selected sizes are plotted as functions of time in Figures 5a and 5b and provided in tabular form in Appendix B.

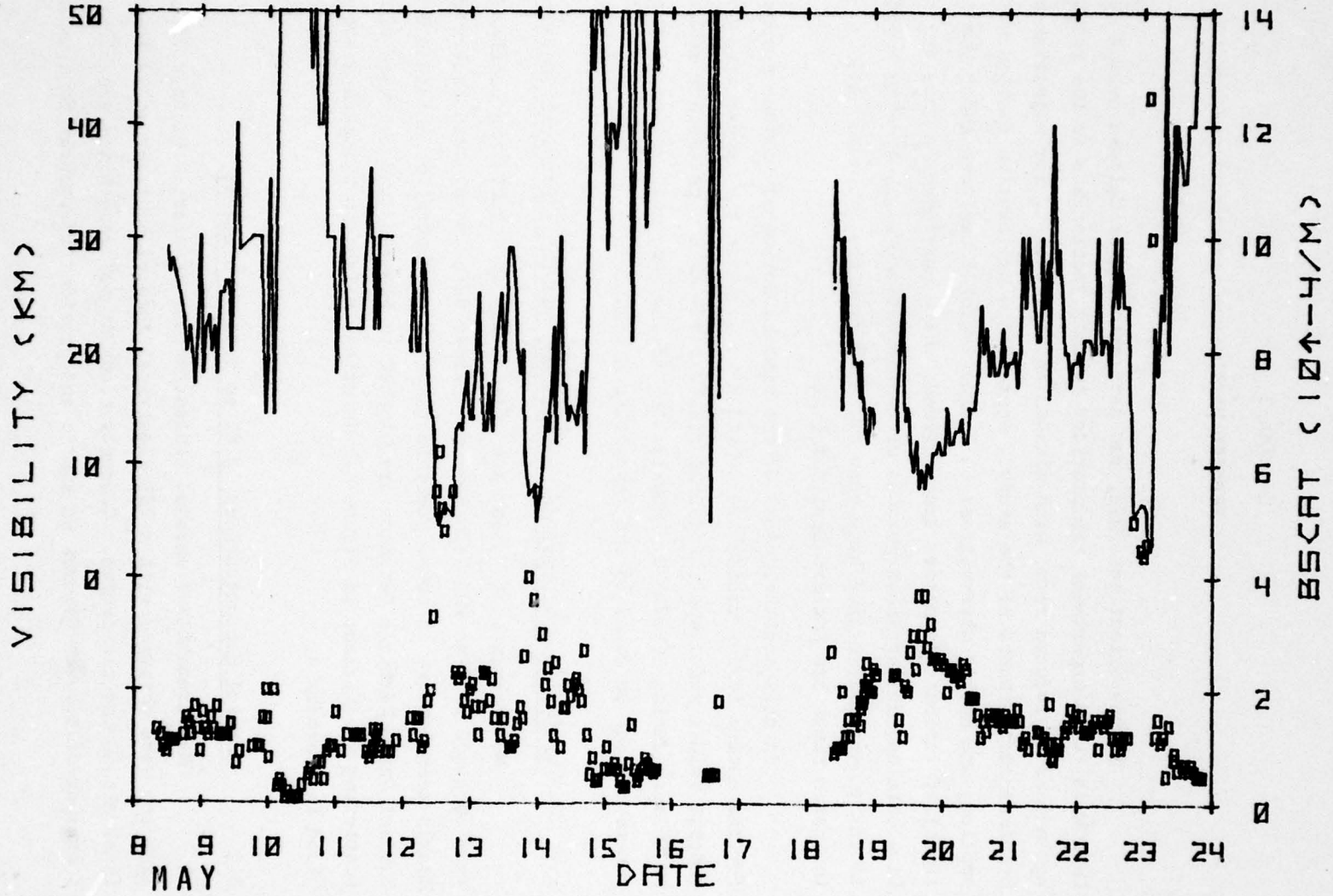


Figure 2: Visibility and Scattering Coefficient as Functions of Time During CEWCOM-78

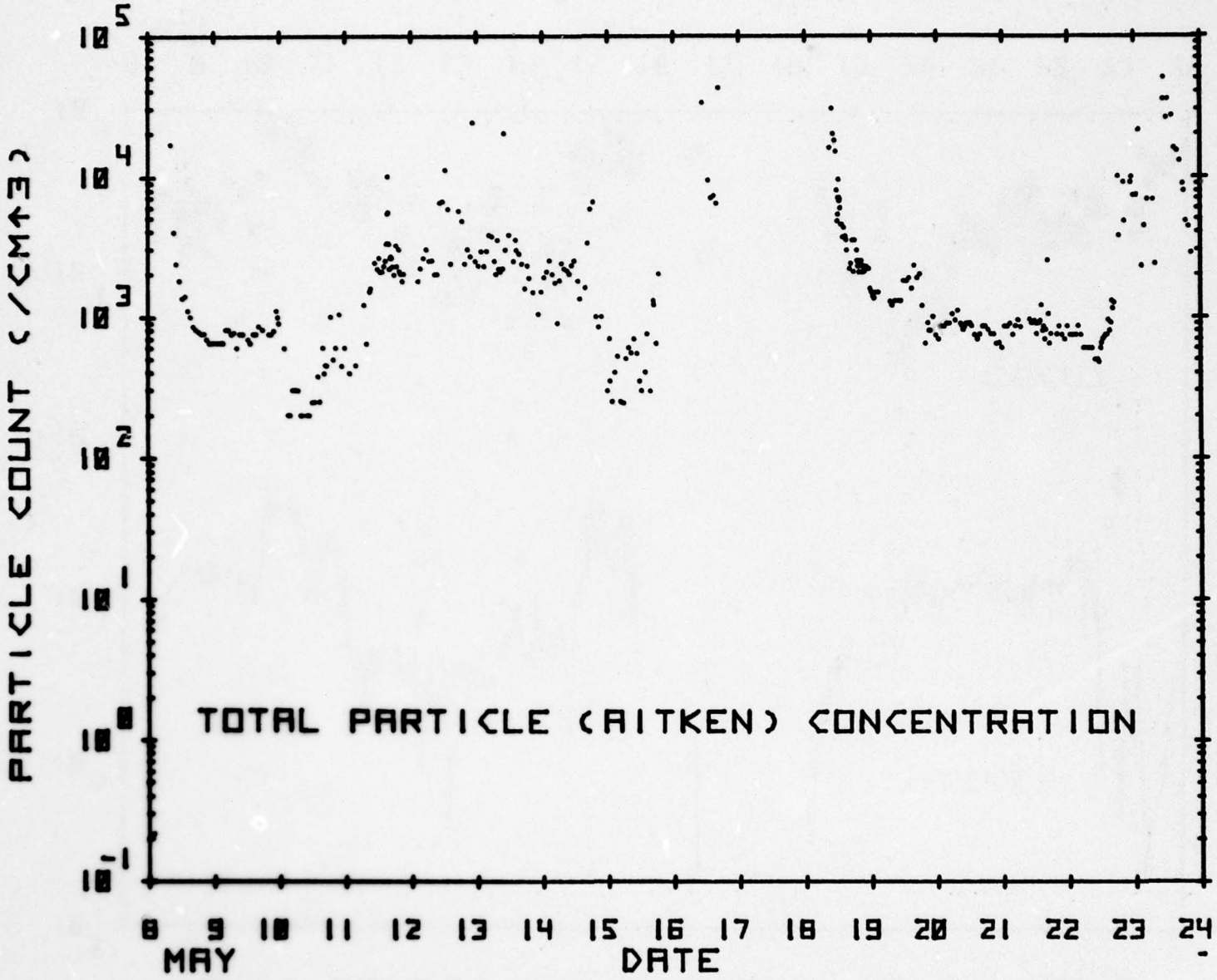


Figure 3: Aitken Nucleus Concentration as a Function of Time During CEWCOM-78

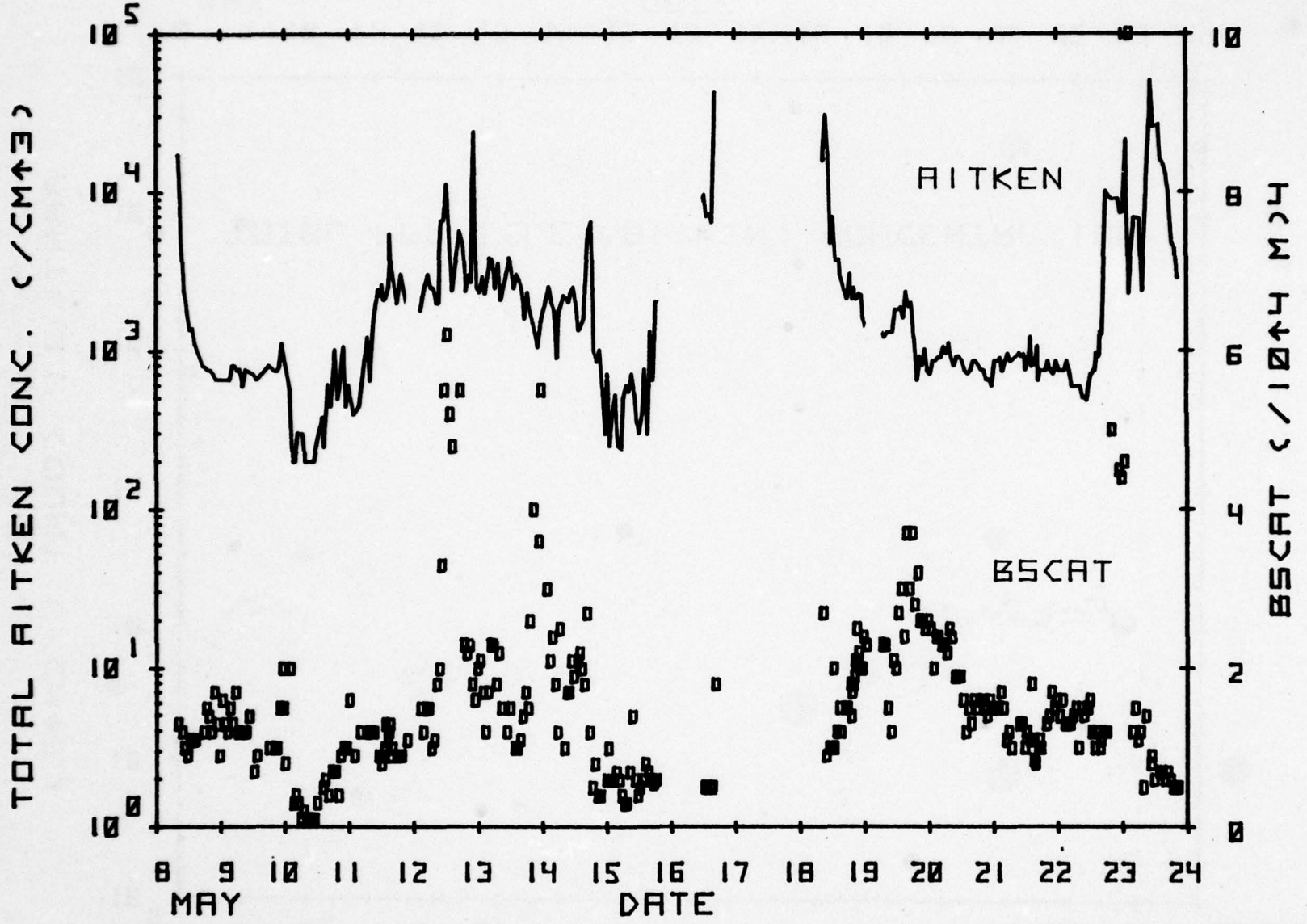


Figure 4: Aitken Nucleus Concentration and Scattering Coefficient as Functions of Time During CEWCOM-78

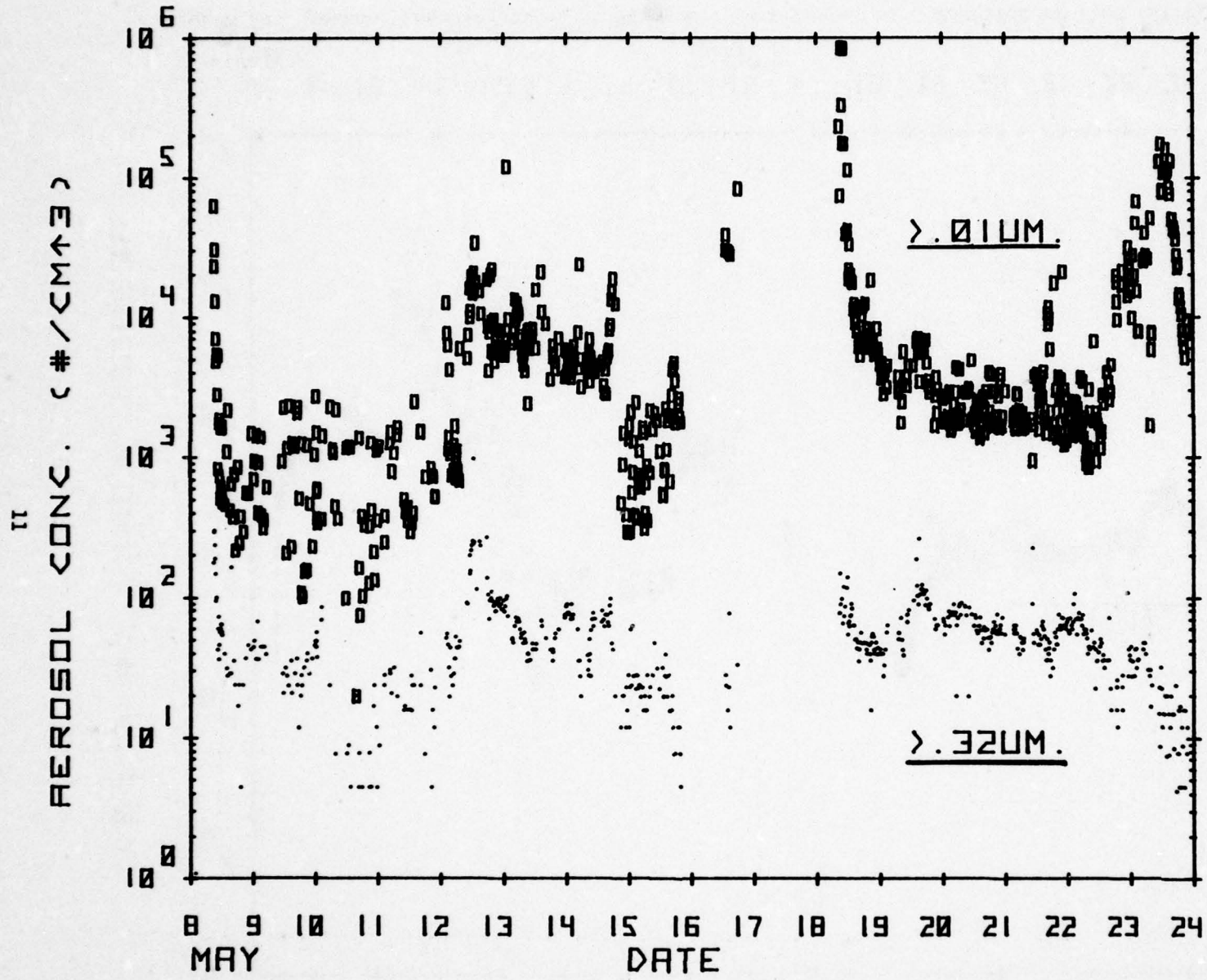


Figure 5a: Aerosol Concentrations at Sizes >0.01 μm and >0.32 μm Diameter as Functions of Time During CEWCOM-78

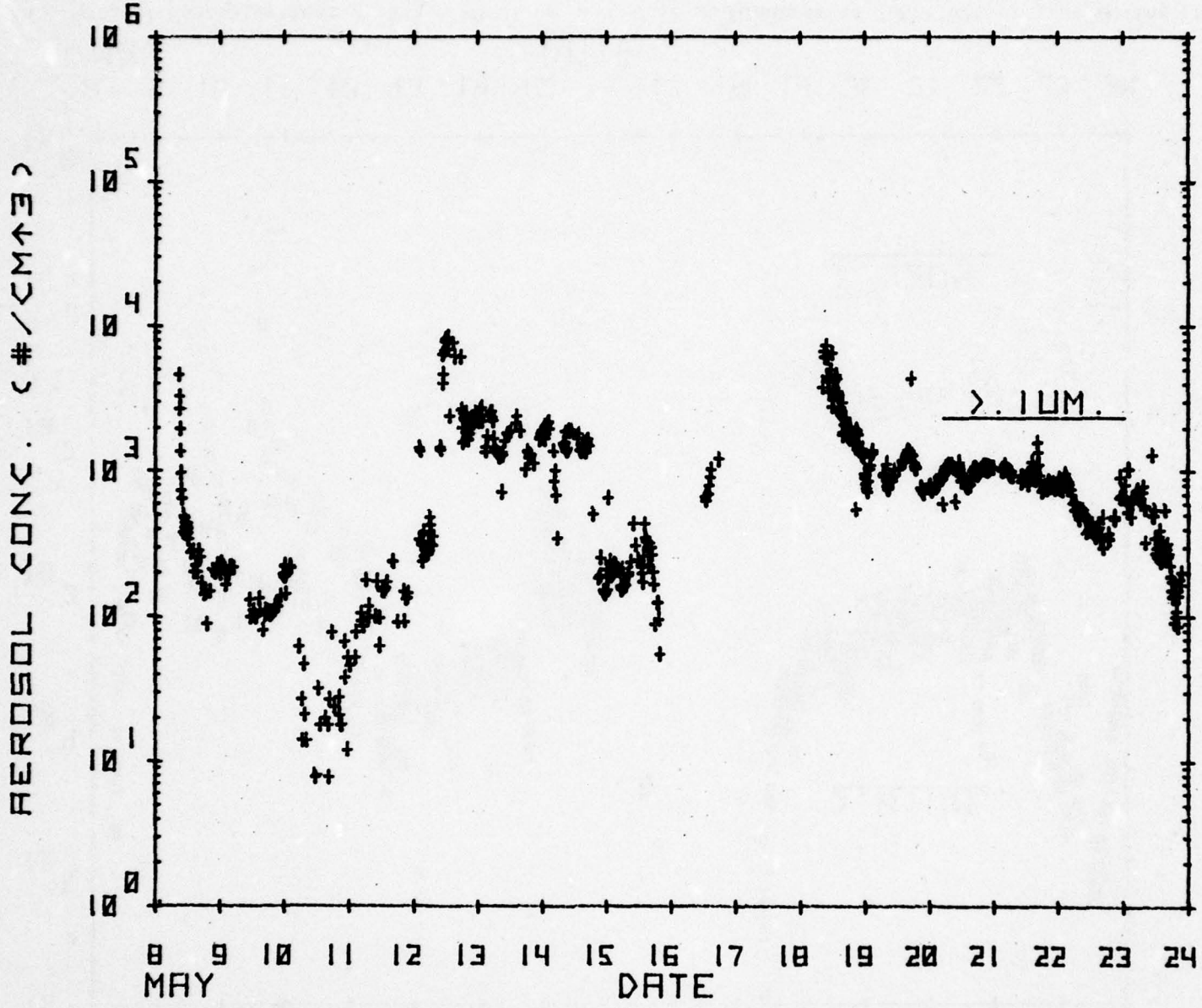


Figure 5b: Aerosol Concentrations at Size >0.1 μm Diameter as a Function of Time During CEWCOM-78

3.3 Giant Aerosols and Sea Spray

During the cruise more than 50 observations of giant, sea spray aerosols were obtained using Calspan's aqueous-aerosol sampler. The sampler is an impaction device employing gelatin replication to obtain permanent replicas of the droplet population at sizes >1.0 μm diameter. Analyses require tedious microscopy, but the technique provides reliable data which are unavailable by other means. Previous studies (i.e., Ref. 7 and 10) have shown these aerosols to play an important role in visibility restriction in the marine boundary layer.

Under the scope of our contract, analysis of these data was limited, but examples of the kind of data obtained are shown in Figure 6. Each spray-drop size distribution in Figure 6 is annotated with the time of acquisition (T), mean radius (R) in microns, number concentration (N) per cubic centimeter and calculated visibility (V) (in kilometers) attributable to that droplet population. The data plotted in Figure 6 were obtained, under westerly wind conditions, as the ACANIA cruised crosswind, just upwind of the northwestern tip of SNI. (The ship was stopped and headed into the wind for these measurements obtained on ship's bow.) The data for the period 1908 to 2030 PDT were obtained within 1 to 2 km upwind of SNI, with the closest approach (i.e., 1 km) occurring at 1940 PDT. The second data set, acquired during the period 2140 to 2230, was obtained at a distance $\sim$ 4.5 km upwind of SNI. Details of these 10 droplet spectra may be found in Appendix C.

3.4 Cloud Condensation Nuclei (CCN)

Approximately 120 measurements of the CCN spectrum from 0.2 to 1.0% S were obtained during the cruise. These data could not be reduced under the scope of our contract.

3.5 Aerosol Chemistry

Two types of aerosol collections (for subsequent chemical analyses) were performed during the CEWCOM-78 cruise: hi-vol collections on fluoropore teflon membrane filters (0.5 μm pore size) for analyses of bulk aerosol chemistry and TSI Electrostatic Precipitator samples on cellulose acetate

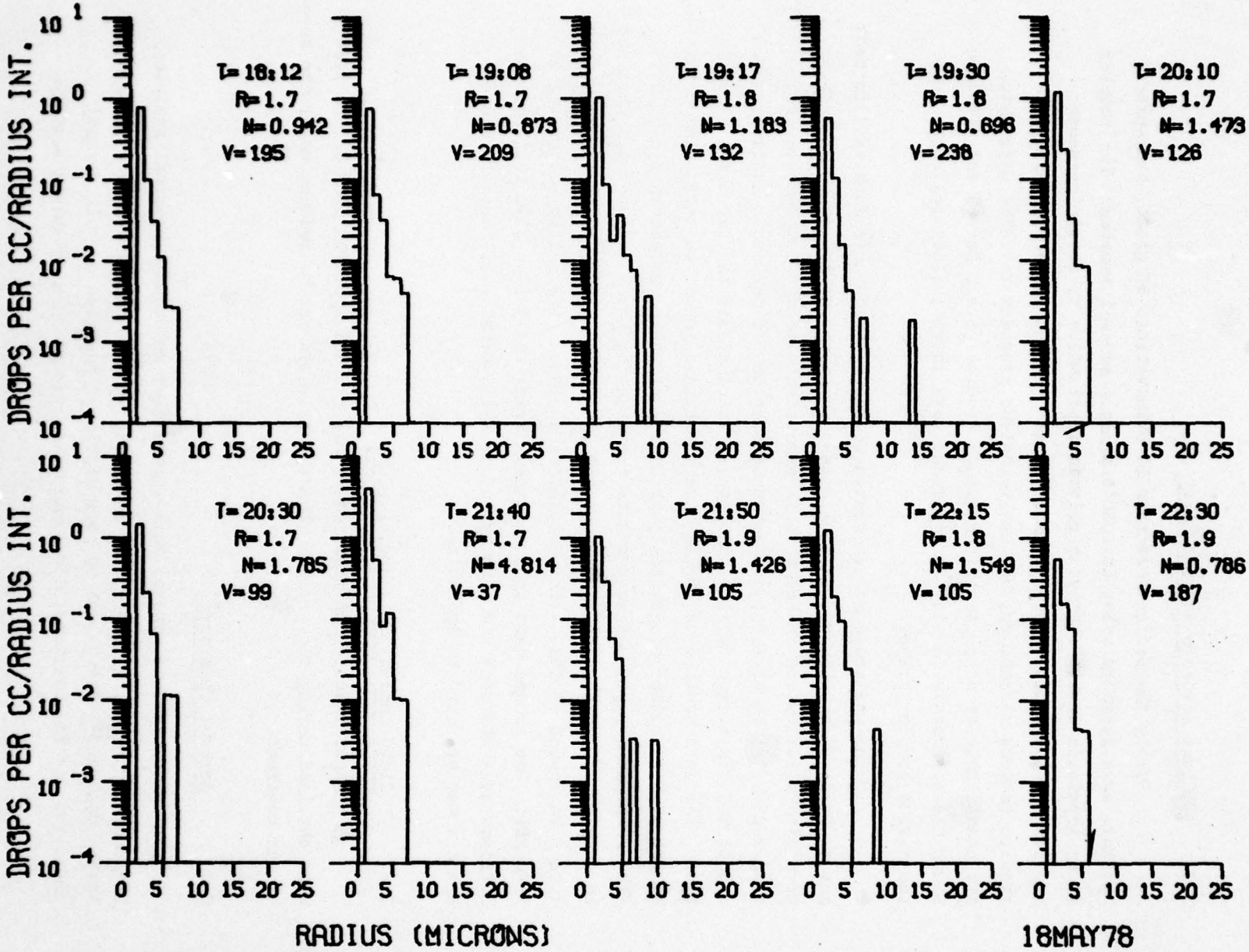


Figure 6: Examples of Sea Spray Size Spectra (>1.0 μm diameter) Obtained on 18 May 1978 During CEWCOM-78

substrates for compositional analysis of individual particles. The teflon filters were analyzed by wavelength-dispersive X-ray fluorescence (XRF) at The Environmental Protection Agency's (EPA) National Environmental Research Center at Research Triangle Park (RTP), N. C., and the assistance provided by J. L. Durham of EPA's Atmospheric Chemistry and Physics Division at RTP is gratefully acknowledged. Results of the XRF analyses are presented in Table 2.

The electrostatic precipitator samples were earmarked for compositional analysis (as a function of particle size) via energy dispersive X-ray in Calspan's Scanning Electron Microscope. Analysis of these samples was not within the scope of our current contract.

3.6 Fog

During CEWCOM-78, three minor fog events, in which visibility degraded below 6000 m (including six hours of fog with visibility < 1000 m), were encountered by ACANIA: 2115-0230 PDT, 13-14 May; 0650-1100 PDT, 14 May; and 0120-1030 PDT, 19 May. During the fog events, 29 measurements of droplet size spectra were obtained. Visibility records for the three fog events are reproduced in Figures 7, 8, and 9. (Because of a requirement for the ACANIA to return downwind to SNI, the visibility data for the period 0315-0650 in the fog of 19 May may be contaminated by ship's heat and exhaust.)

3.7 Winds

True wind direction and speed for the CEWCOM-78 cruise are plotted in Figures 10 and 11, respectively. These values were computed from measured relative winds and ship's speed and heading. Numerical values may be found in Appendix D.

3.8 Air and Sea Surface Temperatures

Sea surface temperature and air temperature at 3.0, 8.5 and 20.5 m above the surface were monitored continuously with Foxboro thermistors. These data are logged at hourly intervals in Appendix E. Temperature data for the sea surface and the 20.5 m height and the temperature difference between these two levels are plotted as functions of time in Figure 12.

Table 2: Airborne Concentrations of Selected Constituents of Hi-Vol Aerosol Samples Collected During CEWCOM-78

Absolute Concentration ($\mu g/m^3$)

Sample #	Date	Exposure Time	Na	Cl	S	K	Mg	Ca	Al	Si
1	8 May	0915-2310	1.06	2.86	.28	.21	.23	.66	.04	.23
2	9 May	0030-0500	2.24	6.13	.39	.38	.45	.77	.05	.21
3	11 May	1430-1905	3.20	7.38	.41	.41	.47	.73	.06	.34
4	13 May	0110-1000	1.59	2.70	.40	.32	.34	.54	.08	.44
5	18 May	1210-2017	1.51	2.15	.40	.48	.36	.82	.15	.79
6	18-19 May	2250-0135	3.84	6.43	.40	.37	.50	.62	.08	.43
7	19 May	1420-2240	1.35	1.59	.53	.24	.22	.44	.09	.47
8	19-20 May	2300-0720	1.37	2.47	.38	.26	.25	.41	.08	.36
9	20 May	1036-2215	1.08	1.57	.36	.27	.22	.49	.09	.47
10	20-21 May	2230-0710	1.44	2.51	.39	.30	.27	.49	.09	.46
11	21 May	1437-1755	1.74	2.19	.41	.26	.24	.46	.08	.37
12	21-22 May	2220-1005	1.28	2.74	.40	.25	.25	.53	.07	.33
13	22-23 May	2330-0555	2.97	7.42	.51	.68	.55	.92	.17	1.05
14	23 May	1230-1800	3.16	8.34	.24	.60	.52	.86	.22	1.48
15	23 May	1815-2130	3.39	8.78	.29	.35	.41	.57	.13	.65

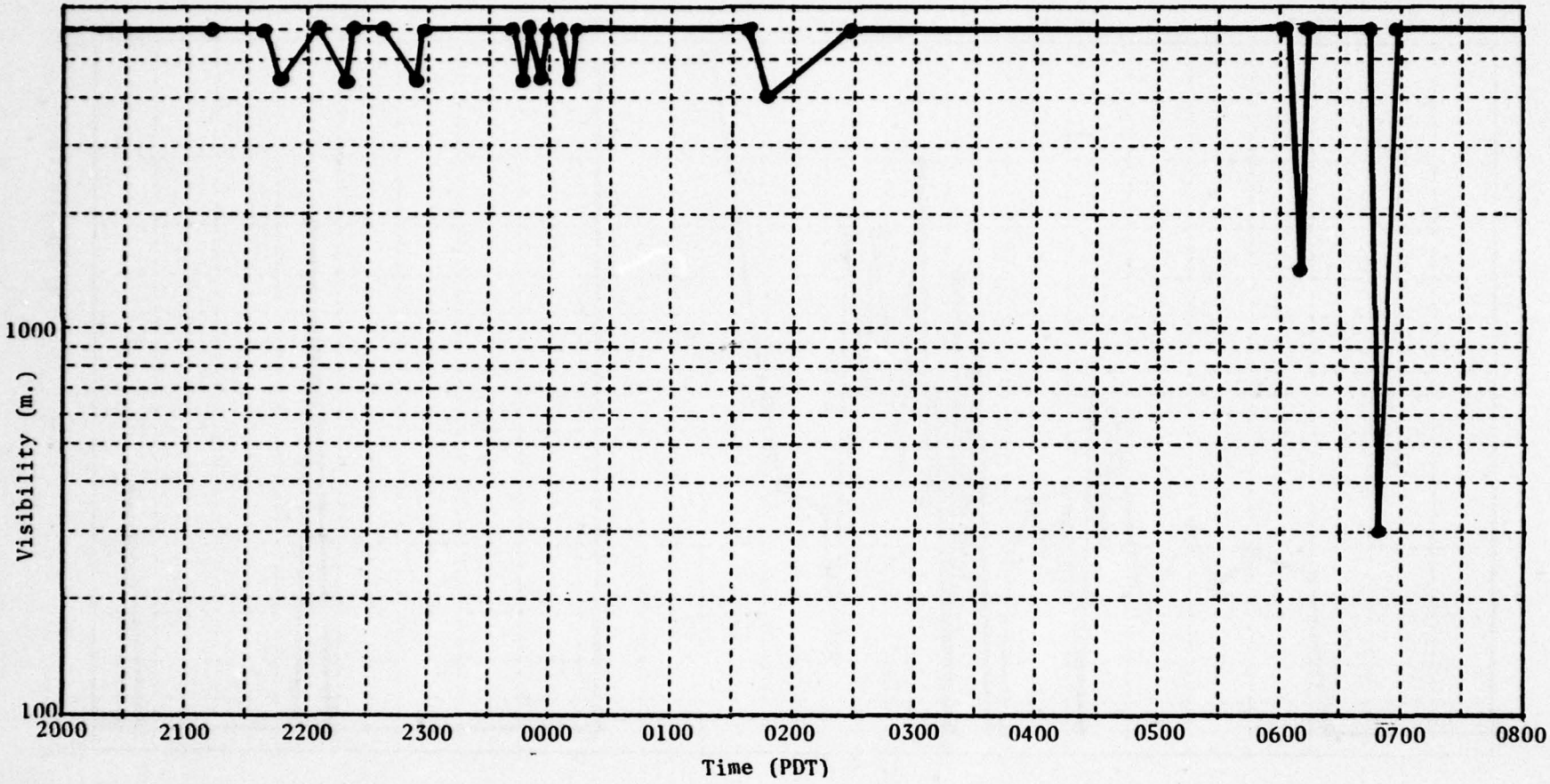


Figure 7: Visibility as a Function of Time in Light Fog, 2000-0800 PDT, 13-14 May 1978

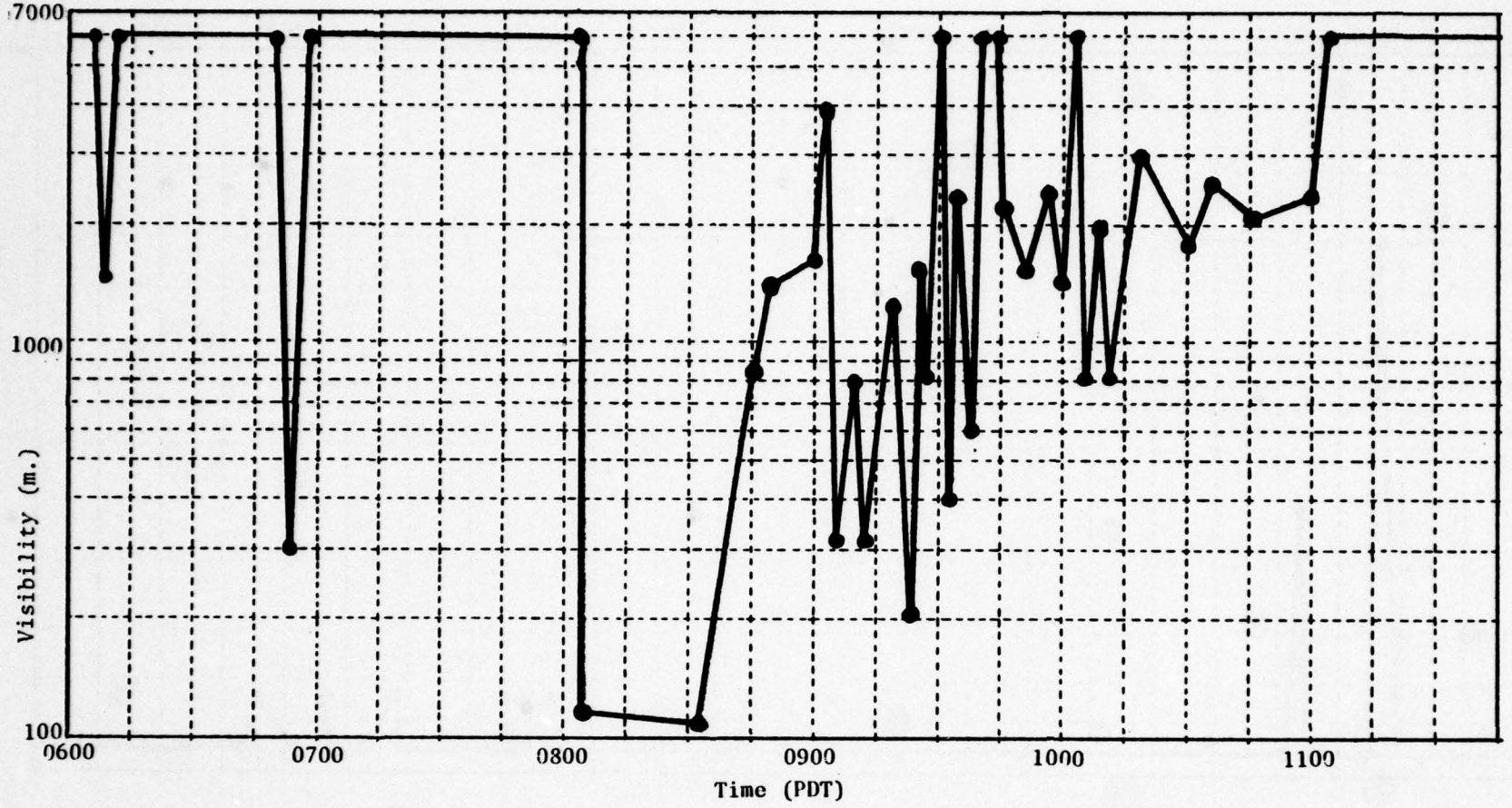


Figure 8: Visibility as a Function of Time in Light Fog, 0600-1200 PDT, 14 May 1978

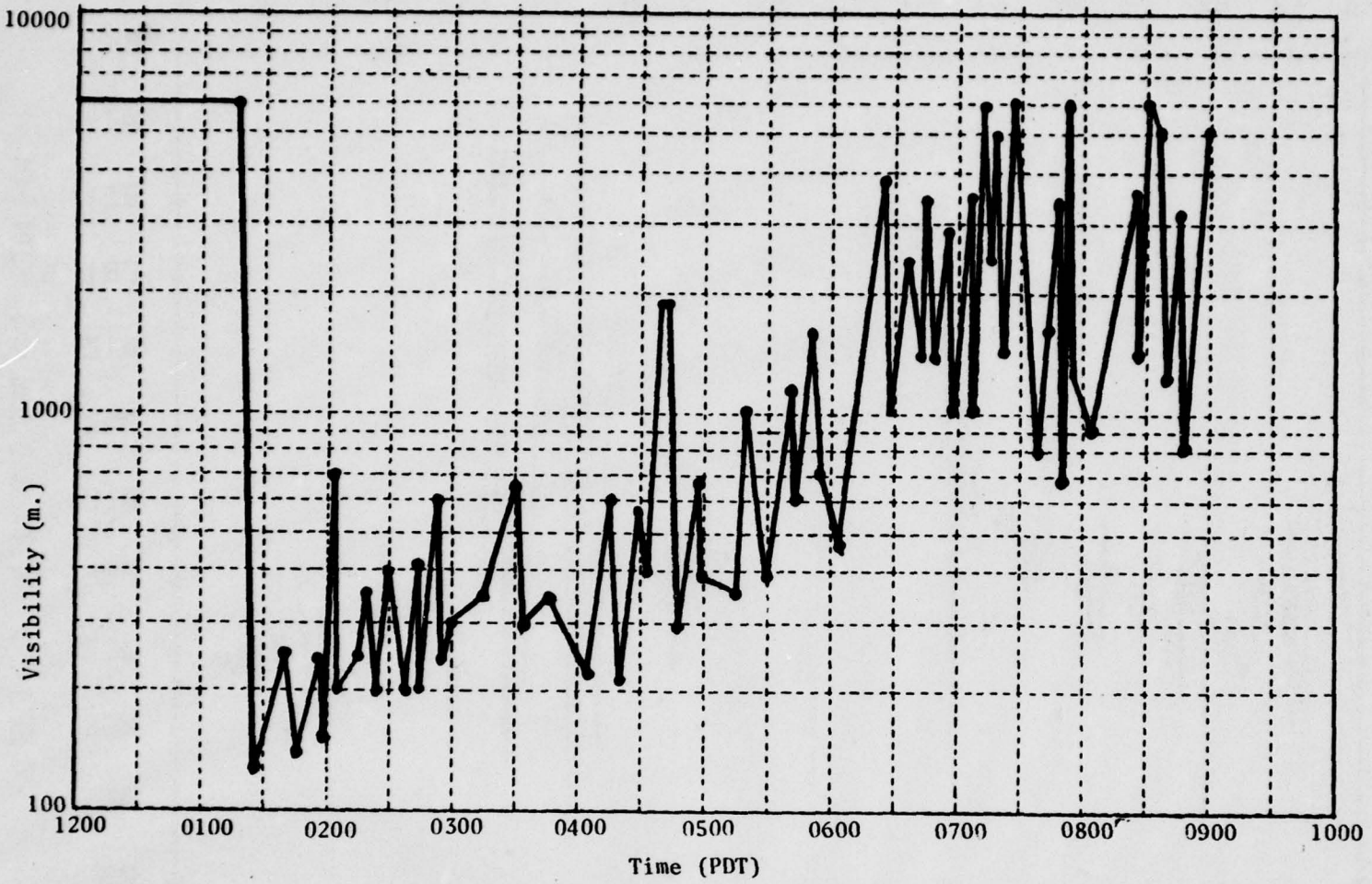


Figure 9: Visibility as a Function of Time in Light Fog, 0100-1000 PDT, 19 May 1978

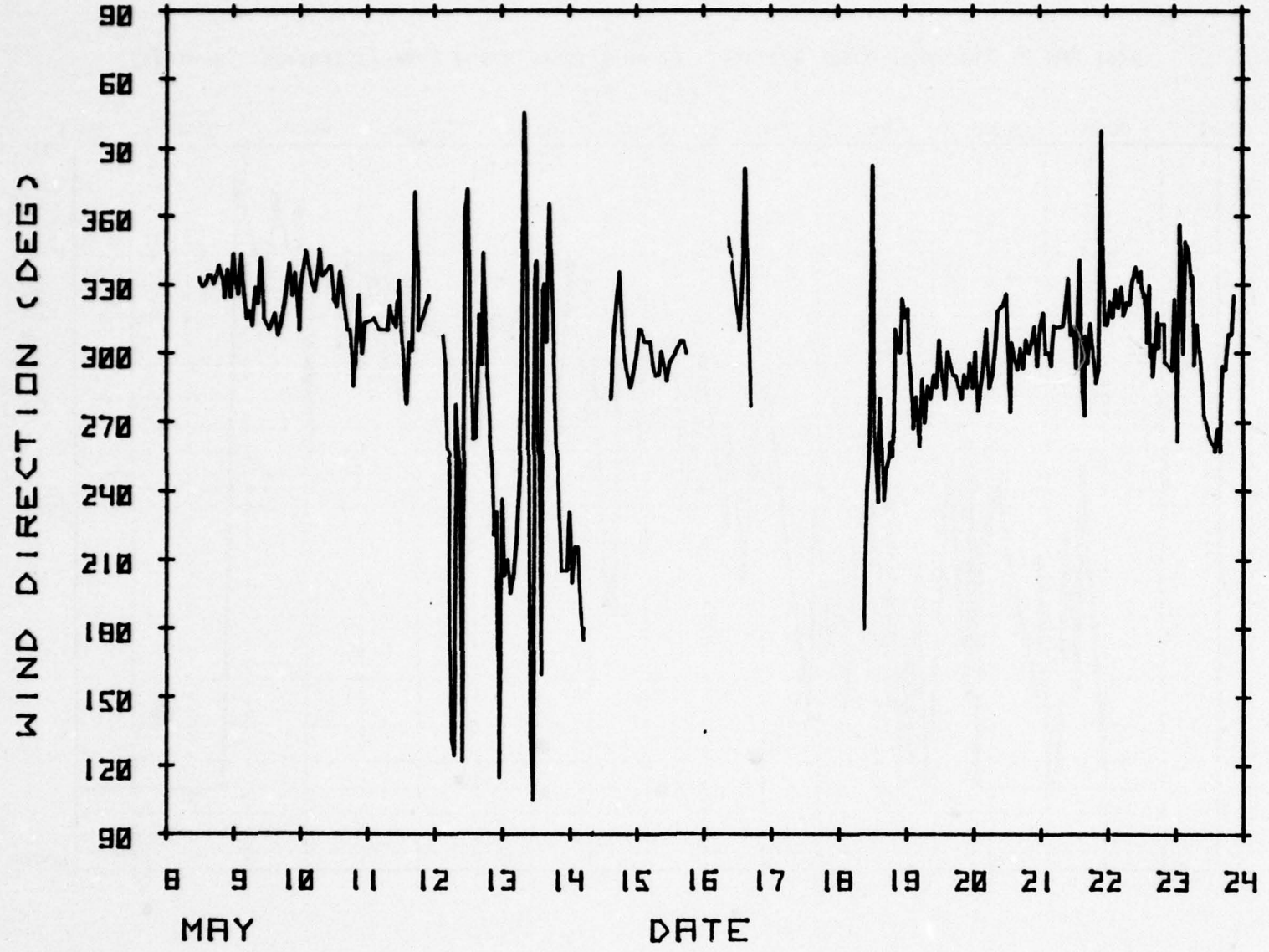


Figure 10: True Wind Direction Measured From Aboard ACANIA During CEWCOM-78

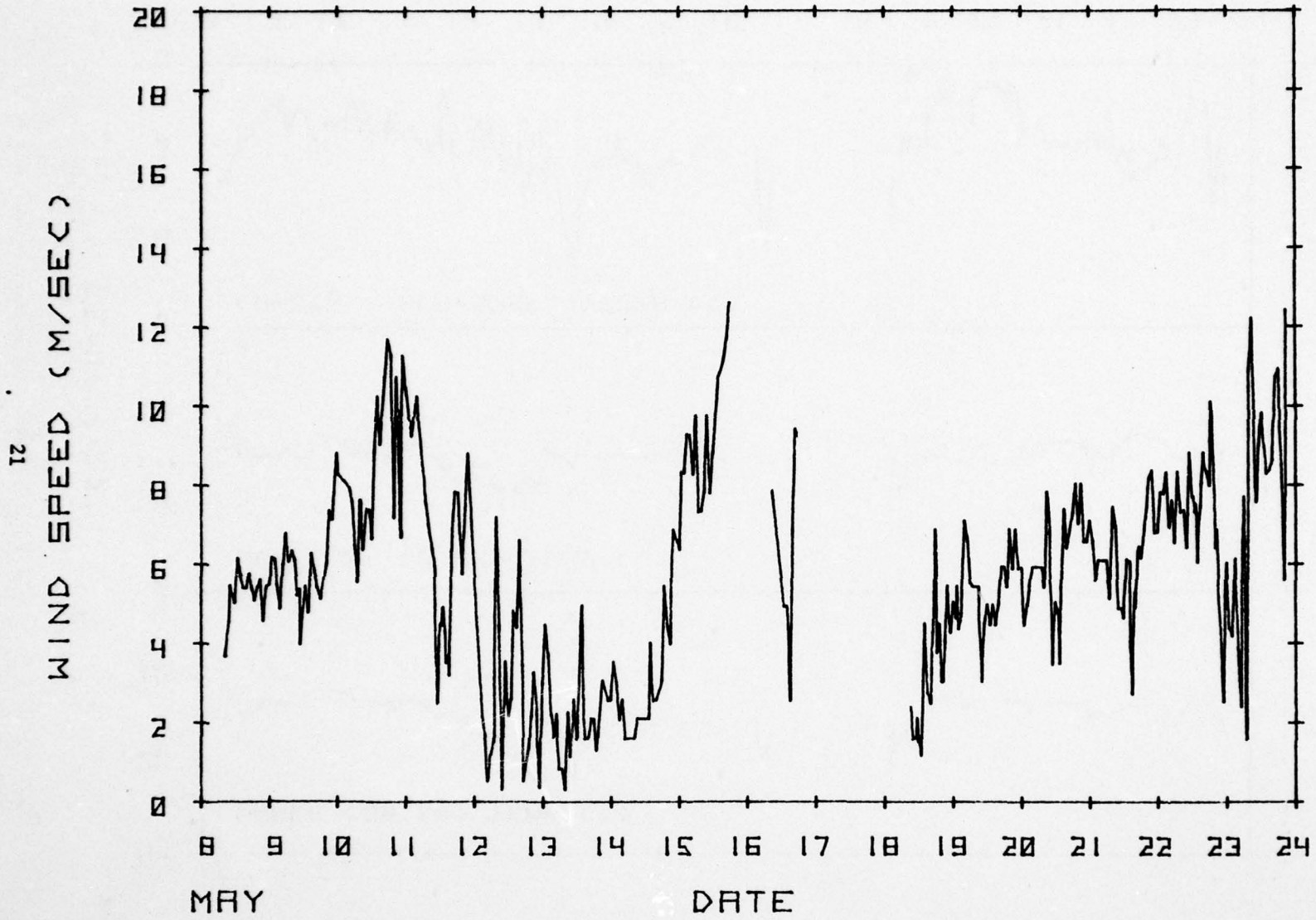


Figure 11: Wind Speed Measured From Aboard ACANIA During CEWCOM-78

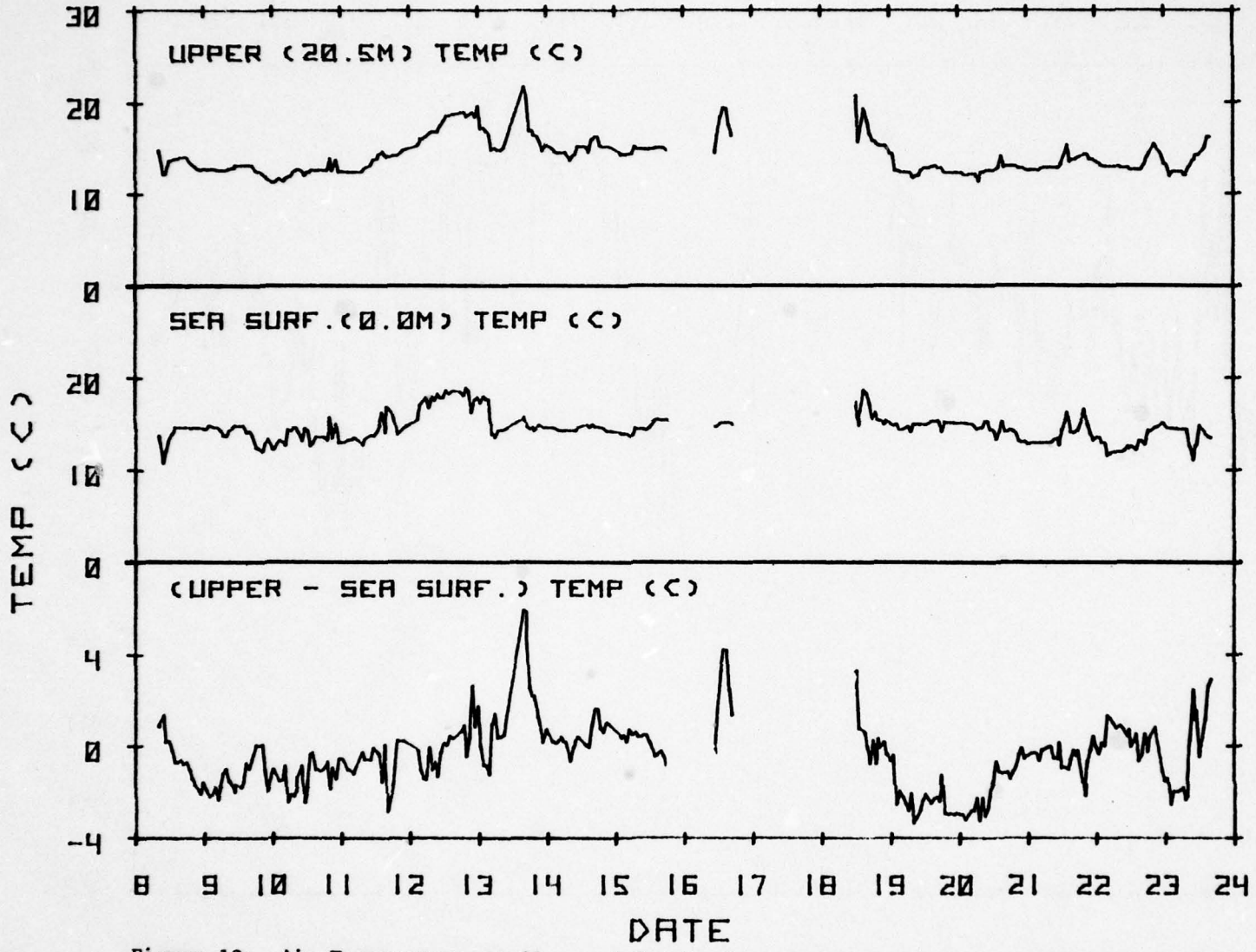


Figure 12: Air Temperature at 20 m and Sea Surface Temperature During CEWCOM-78

3.9 Humidity and Refractive Index

Wet-bulb and dry-bulb temperatures were monitored in the air-sampling intake system used for the nephelometer and aerosol instrumentation. Air intake was on the bow of the ACANIA at a height of $\sim$ 5 m above the sea surface. The Hg thermometers used in the intake system were cross-calibrated against the Foxboro temperature system and a secondary standard thermometer. Air temperature and computed dewpoint data are plotted as functions of time in Figure 13.

From the wet-and dry-bulb temperature data, relative humidity and mixing ratio were also computed. Plots of hourly values of relative humidity and mixing ratio as functions of time are provided in Figures 14 and 15, respectively.

Atmospheric pressure was also recorded from the ship's aneroid barometer on an hourly basis and varied from 1012 to 1022 mb during the cruise. These data, combined with temperature and water vapor pressure, were used to compute atmospheric refractive index through the following expression:

$$N = \frac{77.6\ P}{T} + 3.73 \times 10^5 \frac{e}{T^2}$$

where, N is refractive index in N units defined by $N = (n-1) \times 10^6$; and
n is 1.003;
P is atmospheric pressure (mb); an average of 1017 mb was used;
T is air temperature (^oK); and
e is vapor pressure (mb).

Computed refractive index as a function of time during the cruise is plotted in Figure 16.

The log of numerical values for dry-bulb, wet-bulb and dewpoint temperatures, relative humidity, mixing ratio, and refractive index may be found in Appendix F.

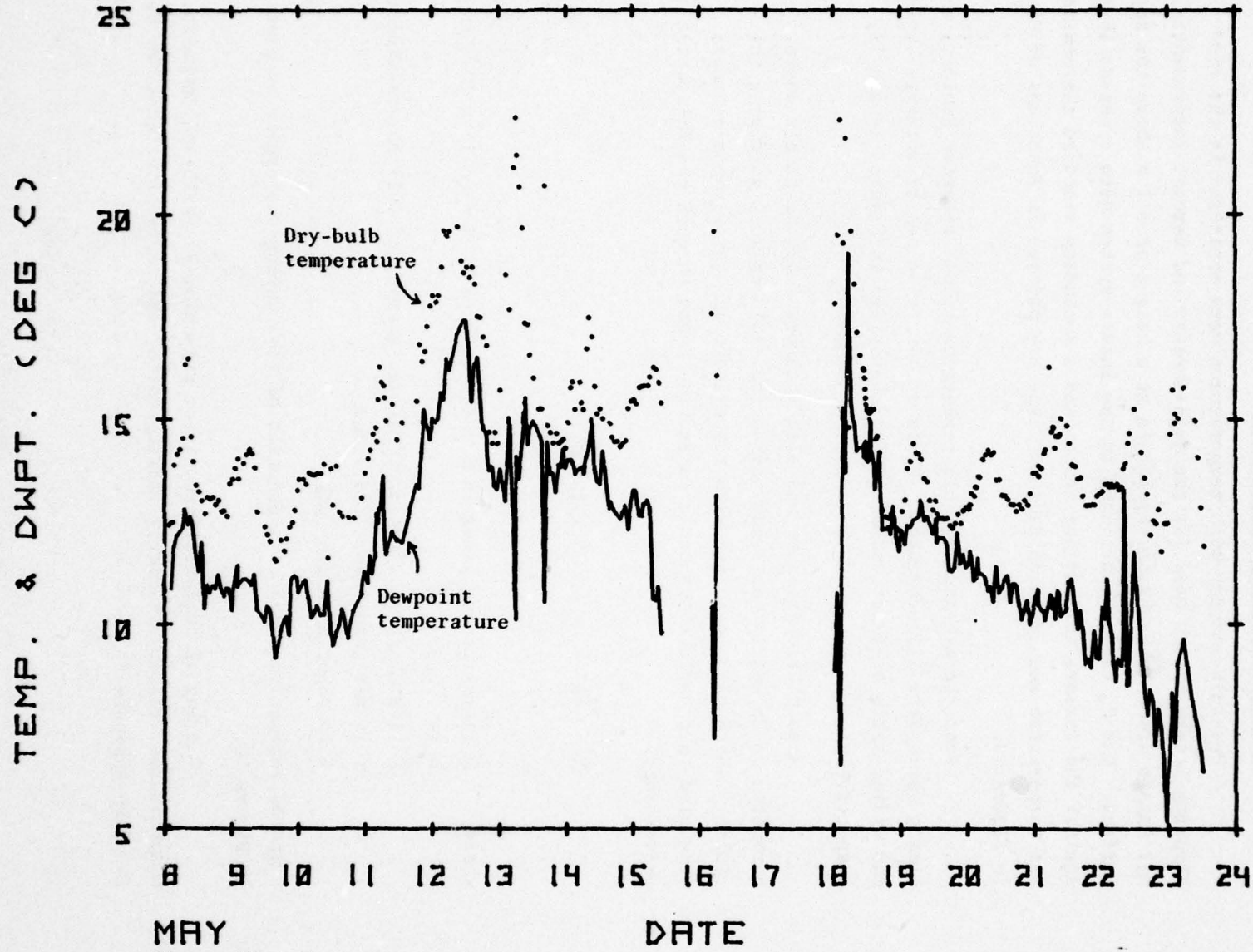


Figure 13: Air and Dewpoint Temperature Measured at 5 m Above the Surface During CEWCOM-78

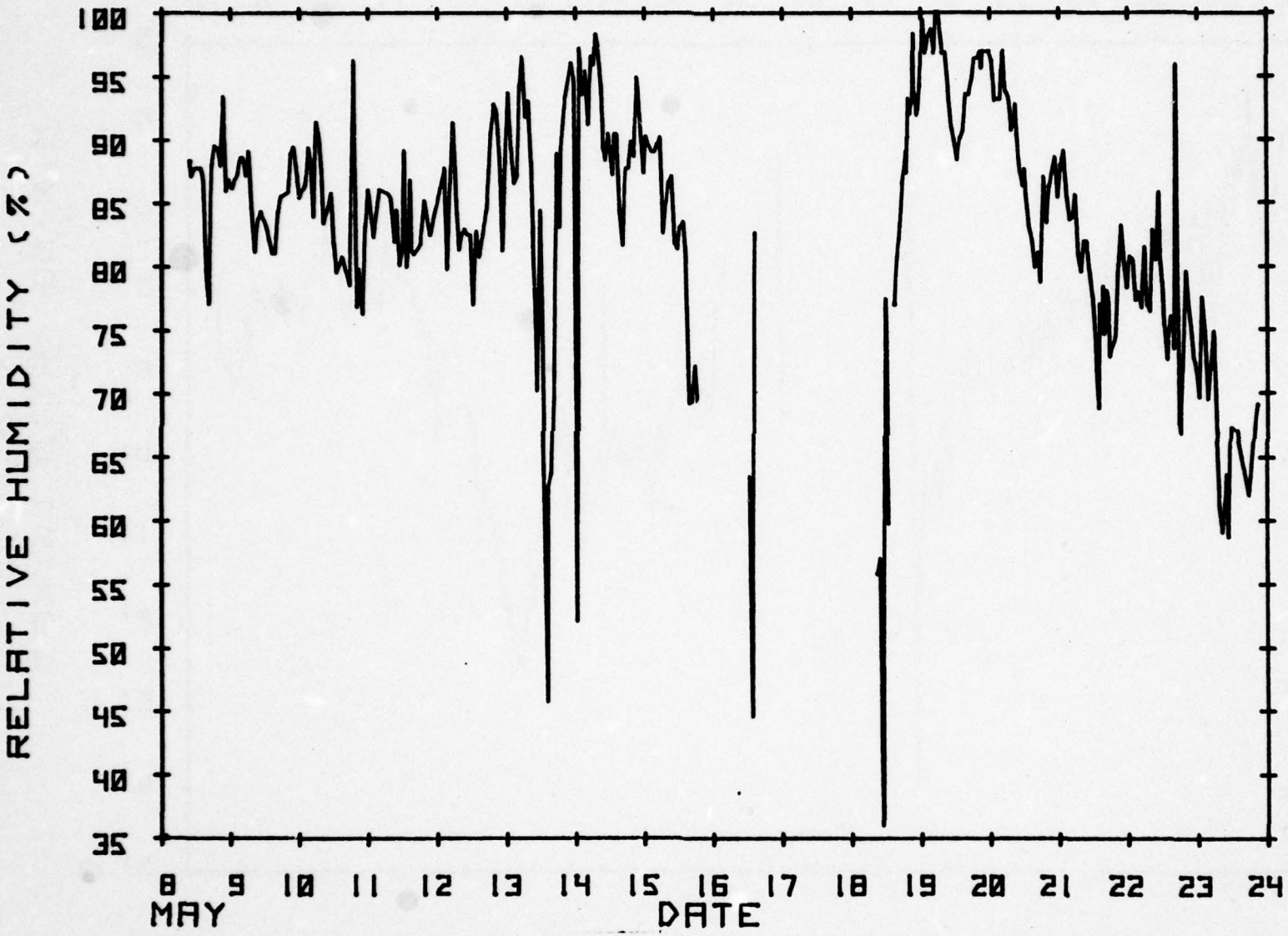


Figure 14: Calculated Relative Humidity (at the 5 m height) During CEWCOM-78

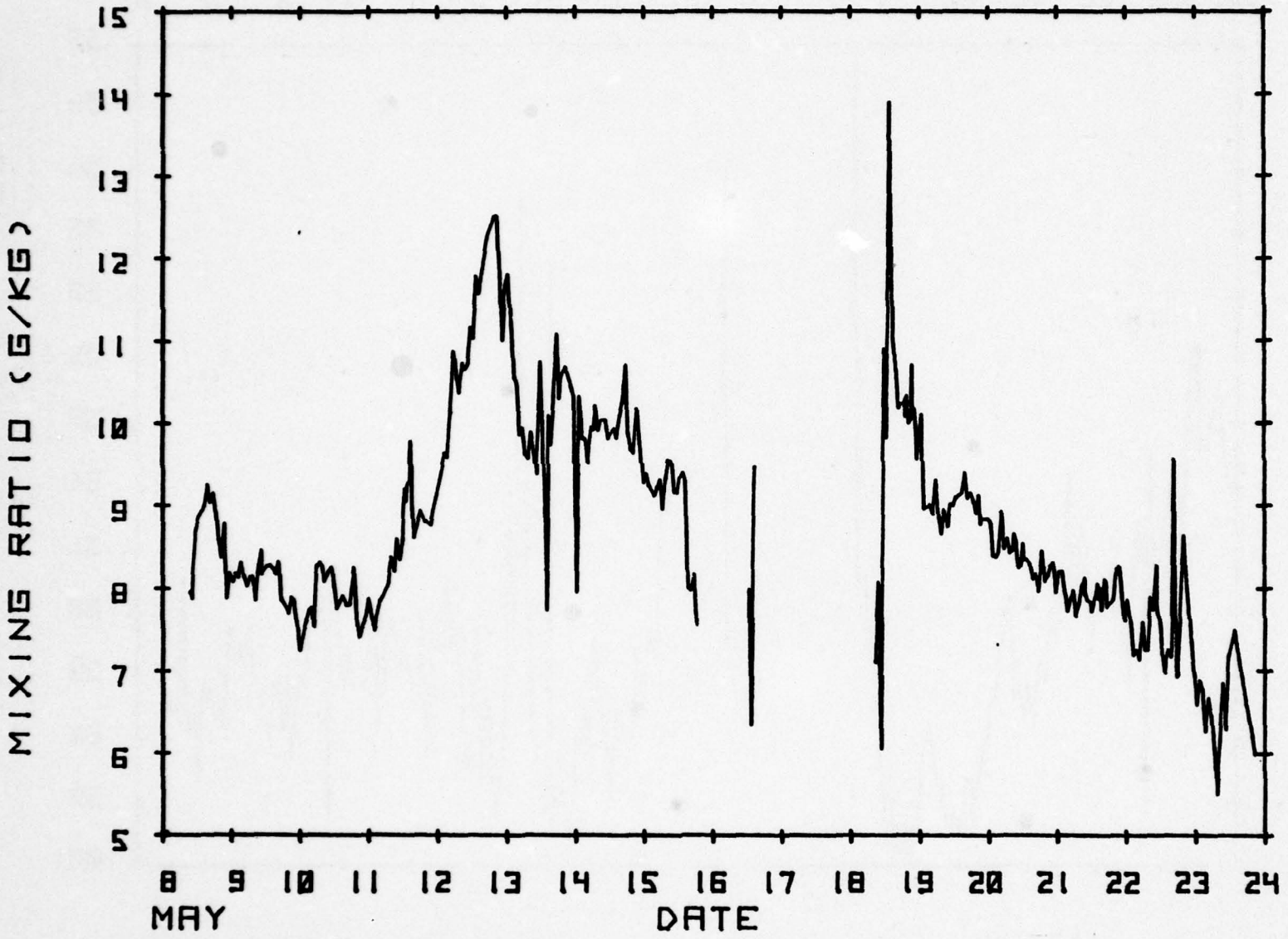


Figure 15: Calculated Mixing Ratio (at the 5 m height) During CEWCOM-78

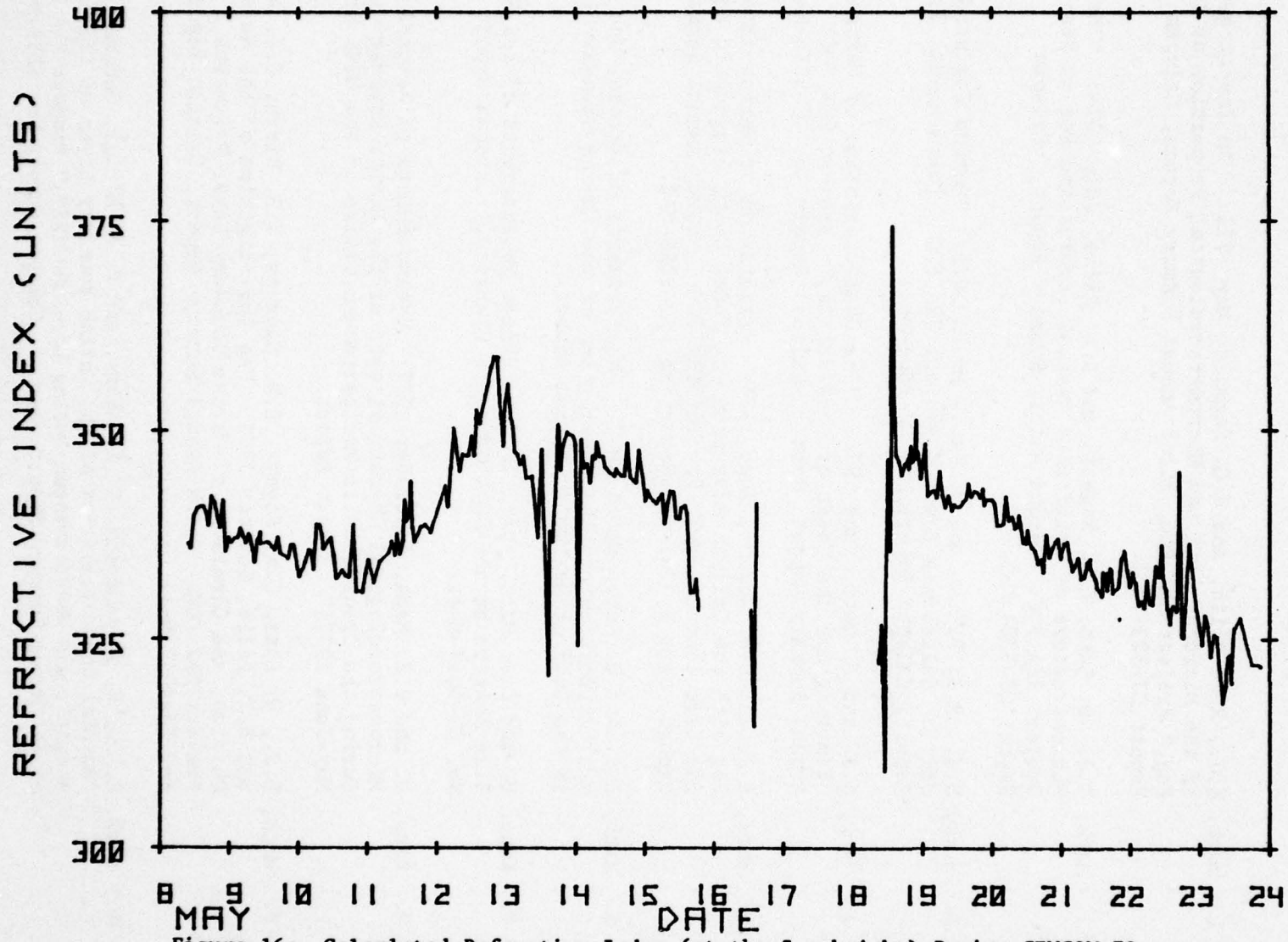


Figure 16: Calculated Refractive Index (at the 5 m height) During CEWCOM-78

References

1. Mack, E.J., R.J. Pilié, and W.C. Kocmond, May 1973: "An Investigation of the Microphysical and Micrometeorological Properties of Sea Fog," Project SEA FOG, First Annual Summary Report, Calspan Report CJ-5237-M-1.

2. Mack, E.J., U. Katz, C.W. Rogers, and R.J. Pilié, July 1974: "The Microstructure of California Coastal Stratus and Fog at Sea," Project SEA FOG: Second Annual Summary Report, Calspan Report CJ-5404-M-1.

3. Mack, E.J., R.J. Pilié, and U. Katz, March 1975: "Marine Fog Studies Off the California Coast," Project SEA FOG: Third Annual Summary Report, Calspan Report No. CJ-5606-M-1.

4. Mack, E.J. and U. Katz, June 1976: "The Characteristics of Marine Fog Occurring Off the Coast of Nova Scotia," Project SEA FOG: Fourth Annual Summary Report, Part 1, Calspan Report No. CJ-5756-M-1.

5. Mack, E.J. and C.W. Rogers, June 1976: "Simulation of Marine Advection Fog With the Calspan Advection Fog Model Using Prognostic Equations for Turbulent Energy," Project SEA FOG: Fourth Annual Summary Report, Part 2, Calspan Report No. CJ-5756-M-2.

6. Mack, E.J. and U. Katz, March 1977: "Measurements of Aerosol and Micrometeorological Characteristics of the Marine Boundary Layer in the Gulf of Mexico," Calspan Report.

7. Katz, U. and E.J. Mack, April 1977: "Direct Measurements of Sea Spray Size Spectra at the NCSL Offshore Platform," Calspan Report No. CH-6067-M-1.

8. Katz, U. and E.J. Mack, September 1977: "Measurements of Aerosol and Micrometeorological Characteristics of the Marine Boundary Layer During the Transatlantic/Mediterranean Cruise of the USNS Hayes, May-June 1977," Calspan Report.

9. Mack, E.J., U. Katz, C.W. Rogers, D.W. Gaucher, K.R. Piech, C.K. Akers, and R.J. Pilié, October 1977: "An Investigation of the Meteorology, Physics, and Chemistry of Marine Boundary Layer Processes," Project SEA FOG: Fifth Annual Summary Report, Calspan Report No. CJ-6017-M-1.

10. Mack, E. J., R. J. Anderson, C. K. Akers, and T. A. Niziol, October 1978: "Aerosol Characteristics of The Marine Boundary Layer of the North Atlantic and Mediterranean During May-June 1977," Project SEA FOG, Sixth Annual Summary Report: Part 1, Calspan Report No. 6232-M-1.

APPENDIX A

VISIBILITY, SCATTERING COEFFICIENT AND TOTAL PARTICLE CONCENTRATION

DATE: 5 8 1978

TIME (PDT)	AITKEN (CM↑-3)	BSCAT (10↑-4/M)	VSBY (MI)
831	17000	1.3	22.0
1001	4000	1.2	25.0
1049	2400	1.0	30.0
1200	1800	0.9	30.0
1300	1350	1.1	27.0
1400	1400	1.1	28.0
1500	1100	1.1	27.0
1600	1000	N/A	N/A
1700	850	N/A	N/A
1800	800	1.2	23.0
1900	775	1.5	20.0
2000	750	1.4	22.0
2100	750	1.2	20.0
2200	700	1.7	17.0
2300	650	1.3	21.0

DATE: 5 9 1978

TIME (PDT)	AITKEN (CM↑-3)	BSCAT (10↑-4/M)	VSBY (MI)
0	650	0.9	30.0
100	650	1.6	18.0
200	650	1.3	22.0
300	650	1.2	23.0
400	650	1.5	20.0
500	800	1.3	22.0
600	800	1.7	18.0
700	750	1.2	25.0
800	775	1.2	25.0
900	600	1.2	26.0
1000	750	1.2	26.0
1100	750	1.4	20.0
1105	750	1.4	23.0
1300	700	0.7	40.0
1400	650	0.9	29.0
1500	750	N/A	N/A
1600	750	N/A	N/A
1700	850	N/A	N/A
1830	800	1.0	30.0
2030	750	1.0	30.0
2130	750	1.0	30.0
2230	800	1.5	19.0
2330	1100	2.0	14.5

DATE: 5 10 1978

TIME (PDT)	AITKEN (CM↑-3)	BSCAT (10↑-4/M)	VSBY (MI)
0	1000	1.5	19.0
30	900	0.8	35.0
230	600	2.0	14.5
345	200	0.3	50.0
430	200	0.4	50.0
530	300	0.3	50.0
630	300	0.1	50.0
730	300	0.2	50.0
830	200	0.1	50.0
900	200	0.1	50.0
1030	200	0.1	50.0
1130	200	0.1	50.0
1230	250	0.3	50.0
1330	250	N/A	N/A
1445	375	0.5	50.0
1530	250	0.6	45.0
1645	600	0.4	50.0
1700	400	N/A	N/A
1730	450	N/A	N/A
1800	450	0.7	40.0
1925	1000	0.7	40.0
2030	500	0.4	50.0
2115	600	0.9	30.0
2230	1050	1.0	30.0
2330	450	1.0	30.0

DATE: 5 11 1978

TIME (PDT)	AITKEN (CM↑-3)	BSCAT (10↑-4/M)	VSBY (MI)
30	600	1.6	18.0
230	400	0.9	31.0
430	450	1.2	22.0
730	1200	1.2	22.0
830	650	1.2	22.0
945	1500	1.2	22.0
1009	1600	N/A	N/A
1130	2400	0.9	31.0
1230	2200	0.8	36.0
1300	2600	0.9	30.0
1330	2100	1.0	30.0
1400	2100	1.3	22.0
1445	2300	1.1	28.0
1520	2500	1.2	25.0
1540	3300	1.3	22.0
1545	5400	0.9	30.0
1600	10000	N/A	N/A
1610	5600	N/A	N/A
1630	3300	1.0	30.0
1645	2200	N/A	N/A

DATE: 5 11 1978 CONTINUED

1705	2600	N/A	N/A
1725	2700	N/A	N/A
1735	2600	N/A	N/A
1750	2300	N/A	N/A
1830	2000	0.9	30.0
1900	3200	N/A	N/A
1930	2300	N/A	N/A
2000	3000	0.9	30.0
2030	2100	N/A	N/A
2100	2000	N/A	N/A
2130	1800	N/A	N/A
2200	2000	1.1	28.0

DATE: 5 12 1978

TIME (PDT)	AITKEN (CM↑-3)	BSCAT (10↑-4/M)	VSBY (MI)
300	1800	1.5	20.0
400	2200	1.2	28.0
500	2600	1.5	20.0
600	3000	1.5	20.0
700	2500	1.0	28.0
800	2500	1.1	27.0
900	2000	1.8	18.0
1000	2000	2.0	15.0
1100	6500	3.3	13.0
1200	6600	5.5	5.5
1300	11000	6.2	4.6
1400	5800	5.2	5.6
1500	2400	4.8	6.2
1745	5600	5.5	5.4
1900	4800	2.3	13.0
2000	2400	2.2	13.5
2100	3000	2.3	13.0
2200	2700	1.8	16.0
2300	24000	1.6	18.0

DATE: 5 13 1978

TIME (PDT)	AITKEN (CM↑-3)	BSCAT (10↑-4/M)	VSBY (MI)
0	2500	2.0	14.0
100	2300	2.1	14.0
200	2900	1.7	18.0
300	2300	1.2	25.0
400	2900	1.7	18.0
500	3800	2.3	13.0
600	3700	2.3	13.0
700	2500	1.8	17.0
730	2000	N/A	N/A
800	3500	2.2	13.0
830	2200	N/A	N/A
900	2100	1.5	19.0
930	2200	N/A	N/A

DATE: 5 13 1978 CONTINUED

1000	2200	N/A	N/A
1030	20000	N/A	N/A
1100	3000	1.2	25.0
1218	3800	1.5	19.0
1400	2500	1.0	29.0
1443	3500	N/A	N/A
1500	3000	1.0	29.0
1600	2800	1.1	27.0
1700	2400	1.4	20.0
1800	1600	1.7	18.0
1900	2300	1.5	20.0
1934	1900	2.6	11.0
2100	1500	4.0	7.3
2300	1050	3.6	8.1

DATE: 5 14 1978

TIME (PDT)	AITKEN (CM↑-3)	BSCAT (10↑-4/M)	VSBY (MI)
0	1500	5.5	5.0
100	1900	N/A	N/A
200	2100	3.0	9.5
300	2500	2.1	14.0
330	N/A	N/A	N/A
400	2000	2.4	13.0
500	1750	1.8	16.0
600	900	1.2	22.0
651	1800	2.5	12.0
735	2400	N/A	N/A
830	2200	1.0	30.0
930	2100	1.7	17.0
1015	2000	1.7	17.0
1100	2300	2.1	14.0
1200	2500	1.9	15.0
1330	1800	2.1	14.0
1410	1350	2.2	13.5
1500	N/A	2.0	15.0
1600	1600	1.8	18.0
1700	3300	2.7	11.0
1800	5800	1.2	22.0
1900	6500	0.5	50.0
2000	1000	0.8	45.0
2100	850	0.4	50.0
2200	1000	0.4	50.0

DATE: 5 15 1978

TIME (PDT)	AITKEN (CM↑-3)	BSCAT (10↑-4/M)	VSBY (MI)
20	300	0.6	40.0
100	700	1.0	29.0
110	350	N/A	N/A
200	250	0.6	40.0
300	400	0.6	40.0

DATE: 5 15 1978 CONTINUED

400	520	0.7	38.0
500	250	0.6	40.0
600	240	0.4	50.0
700	500	0.3	50.0
800	600	0.3	50.0
900	550	0.7	40.0
1000	700	1.4	21.0
1100	550	0.6	50.0
1200	350	0.4	50.0
1245	300	0.5	50.0
1400	400	0.6	45.0
1445	750	0.8	31.0
1600	300	0.7	40.0
1700	1300	0.6	40.0
1715	1200	N/A	N/A
1800	650	0.6	50.0
1900	2000	0.6	45.0

DATE: 5 16 1978

TIME (PDT)	AITKEN (CM↑-3)	BSCAT (10↑-4/M)	VSBY (MI)
1100	33000	N/A	N/A
1300	9500	0.5	50.0
1400	7000	0.5	5.0
1500	7300	0.5	50.0
1600	6400	0.5	50.0
1700	42000	1.8	16.0

DATE: 5 18 1978

TIME (PDT)	AITKEN (CM↑-3)	BSCAT (10↑-4/M)	VSBY (MI)
900	16000	2.7	11.0
1000	30000	0.9	35.0
1030	20000	N/A	N/A
1100	18000	1.0	30.0
1130	15000	N/A	N/A
1147	8000	N/A	N/A
1200	4800	1.0	30.0
1210	5300	N/A	N/A
1220	7000	N/A	N/A
1230	9500	N/A	N/A
1245	6800	2.0	15.0
1300	7000	1.0	30.0
1311	6000	N/A	N/A
1330	4600	N/A	N/A
1345	4500	N/A	N/A
1400	3700	1.2	25.0
1430	4300	N/A	N/A

DATE: 5 18 1978 CONTINUED

1500	3800	1.5	20.0
1515	3500	N/A	N/A
1530	3000	1.2	22.0
1630	2200	N/A	N/A
1700	2400	1.5	19.0
1730	3500	N/A	N/A
1800	2100	1.5	19.0
1830	3500	N/A	N/A
1906	3000	1.8	16.0
1915	2500	1.8	16.0
1925	2500	1.4	19.0
1935	2300	1.7	17.0
1945	2400	1.8	16.0
2000	2100	1.8	16.0
2010	2300	1.8	16.0
2030	2400	1.9	15.0
2035	2300	N/A	N/A
2040	2500	2.1	13.0
2045	2500	N/A	N/A
2130	2100	2.5	12.0
2140	2300	N/A	N/A
2145	2100	N/A	N/A
2150	2100	2.1	13.0
2200	2200	2.2	13.0
2220	2200	N/A	N/A
2230	2300	2.0	15.0
2300	2200	2.0	15.0
2330	2200	2.0	15.0

DATE: 5 19 1978

TIME (PDT)	AITKEN (CM↑-3)	BSCAT (10↑-4/M)	VSBY (MI)
0	1600	2.4	13.0
30	1500	N/A	N/A
100	1400	2.3	13.0
127	1350	N/A	N/A
200	1500	N/A	N/A
300	1500	N/A	N/A
400	N/A	N/A	N/A
700	1300	2.3	13.0
800	1200	2.3	13.0
900	1300	1.5	20.0
1015	1300	1.2	25.0
1100	1300	2.1	14.0
1200	1800	2.0	15.0
1300	1800	2.7	11.0
1400	1900	3.0	9.5
1500	1600	2.4	12.0
1600	2300	3.7	8.0
1700	1900	3.0	9.5
1800	2000	3.7	8.0
1900	1200	2.8	10.0
2000	650	3.2	9.0
2100	900	2.6	11.0
2130	800	N/A	N/A
2200	800	2.6	11.0
2300	1000	2.5	12.0

DATE: 5 20 1978

TIME (PDT)	AITKEN (CM↑-3)	BSCAT (10↑-4/M)	VSBY (MI)
0	750	2.6	11.0
100	700	2.5	11.0
200	850	2.0	15.0
300	850	2.4	12.0
400	900	2.4	12.0
500	900	2.3	13.0
600	1050	2.3	13.0
700	950	2.2	14.0
800	1100	2.5	12.0
900	900	2.4	12.0
930	850	N/A	N/A
1000	800	1.9	15.0
1030	850	N/A	N/A
1100	900	1.9	15.0
1130	900	N/A	N/A
1200	900	1.9	15.0
1230	900	N/A	N/A
1300	850	1.6	18.0
1400	750	1.2	24.0
1500	700	1.5	20.0
1600	750	1.3	22.0
1700	850	1.6	18.0
1800	850	1.5	20.0
1900	800	1.6	18.0
2000	750	1.6	18.0
2100	750	1.5	19.0
2200	650	1.4	22.0
2300	650	1.6	18.0

DATE: 5 21 1978

TIME (PDT)	AITKEN (CM↑-3)	BSCAT (10↑-4/M)	VSBY (MI)
0	600	1.5	19.0
100	850	1.5	19.0
200	850	1.5	20.0
300	900	1.7	17.0
400	750	1.5	20.0
500	850	1.1	30.0
600	950	1.2	24.0
700	850	1.0	30.0
1003	950	1.3	21.0
1100	900	1.3	21.0
1200	950	1.0	30.0
1230	900	1.2	24.0
1245	760	1.2	24.0
1323	900	N/A	N/A
1340	900	N/A	N/A
1405	950	1.1	28.0
1430	1200	1.8	16.0
1500	800	1.1	28.0

DATE: 5 21 1978 CONTINUED

1520	850	0.9	35.0
1545	700	N/A	N/A
1600	800	0.8	40.0
1645	2500	N/A	N/A
1700	1050	1.0	29.0
1730	650	1.1	27.0
1800	750	1.0	29.0
2000	750	1.3	20.0
2100	850	1.4	20.0
2200	750	1.7	17.0
2300	700	1.5	19.0

DATE: 5 22 1978

TIME (PDT)	AITKEN (CM↑-3)	BSCAT (10↑-4/M)	VSBY (MI)
0	850	1.6	19.0
100	750	1.4	20.0
200	750	1.6	18.0
300	750	1.3	21.0
400	850	1.3	21.0
500	750	1.3	21.0
600	600	1.4	20.0
700	600	1.5	20.0
800	600	1.0	30.0
900	600	1.5	20.0
1000	500	1.4	21.0
1100	500	1.5	21.0
1130	475	1.5	20.0
1210	600	1.6	18.0
1230	650	N/A	N/A
1300	700	1.2	24.0
1330	730	N/A	N/A
1400	750	1.0	30.0
1430	750	1.2	25.0
1500	950	1.2	24.0
1530	800	N/A	N/A
1600	900	1.0	30.0
1620	1300	1.1	27.0
1630	1150	N/A	N/A
1700	1250	1.2	24.0
1830	10000	1.2	24.0
1855	3800	N/A	N/A
2030	9000	5.0	5.5
2055	4800	N/A	N/A
2300	9000	4.5	6.5
2320	10000	N/A	N/A

DATE: 5 23 1978

TIME (PDT)	AITKEN (CM↑-3)	BSCAT (10↑-4/M)	VSBY (MI)
0	7400	4.4	6.5
100	7500	4.6	6.0
200	21000	12.5	2.5
300	2300	10.0	3.0
400	4400	1.2	22.0
500	6800	1.5	18.0
600	N/A	1.1	25.0
700	6700	1.2	23.0
800	2400	0.5	50.0
900	N/A	1.4	20.0
1000	N/A	N/A	N/A
1050	35000	0.8	40.0
1100	50000	0.9	30.0
1200	26000	0.6	40.0
1230	35000	N/A	N/A
1400	27000	0.7	35.0
1500	16000	0.7	35.0
1600	15000	0.6	40.0
1700	13000	0.7	40.0
1800	9000	0.6	40.0
1820	8000	N/A	N/A
1900	4800	0.5	50.0
2000	4400	0.5	50.0
2100	2900	0.5	50.0

APPENDIX B

AEROSOL CONCENTRATIONS FOR SIZES 0.01 to 0.75 μm Diameter

DATE: 5 8 1978

TIME (PDT)	AEROSOL CONCENTRATIONS FOR SIZES > INDICATED DIAM. >0.01UM (/CM↑3)	>0.1UM (/CM↑3)	>0.32UM (/CM↑3)	>0.56UM (/CM↑3)
851	63510	4589	180	8.7
900	23320	2669	295	85.0
911	30690	3242	305	71.0
921	13060	1935	238	67.0
931	7015	1371	190	56.0
941	4874	966	149	40.0
950	5398	740	96	18.0
1009	2794	648	101	31.0
1029	5359	377	43	4.4
1038	826	492	60	13.0
1048	1751	475	73	27.0
1058	1859	408	37	13.0
1108	730	440	46	22.0
1118	510	367	60	13.0
1127	1634	367	57	18.0
1137	622	413	60	13.0
1147	579	436	65	13.0
1157	542	399	65	18.0
1207	1641	381	57	18.0
1216	484	341	54	54.0
1316	464	273	40	8.9
1404	1092	282	32	8.9
1416	2184	203	28	4.5
1509	422	225	29	13.0
1534	650	201	29	13.0
1611	378	282	165	8.9
1648	759	258	36	4.4
1713	217	169	24	8.9
1815	850	142	17	8.9
1842	245	146	24	8.9
1915	382	89	5	4.5
2017	293	149	24	8.9
2118	563	209	37	13.0
2217	561	201	46	13.0
2317	1492	229	43	4.5

DATE: 5 9 1978

TIME (PDT)	AEROSOL CONCENTRATIONS FOR SIZES > INDICATED DIAM. >0.01UM (/CM↑3)	>0.1UM (/CM↑3)	>0.32UM (/CM↑3)	>0.56UM (/CM↑3)
17	697	197	45	13.0
36	943	235	49	18.0
117	1438	222	37	13.0
153	407	212	68	13.0
216	921	165	37	13.0
304	1410	195	45	13.0
316	391	197	45	13.0
356	316	220	45	13.0
415	363	220	45	13.0
515	617	216	40	8.9
1116	940	130	29	13.0
1143	2285	99	21	13.0
1243	209	110	32	8.9
1310	1171	102	28	4.5
1343	2335	99	24	8.9
1443	232	133	36	4.5
1501	1277	109	21	13.0
1610	1196	80	29	13.0
1657	2099	111	37	13.0
1705	2288	102	24	8.9
1744	512	110	12	4.5
1831	108	108	20	4.5
1844	1273	106	28	4.5
1858	102	102	24	8.9
1944	154	107	32	8.9
2036	158	110	36	4.5
2043	1235	118	40	8.9
2142	471	117	29	13.0
2249	234	138	37	13.0
2344	1045	194	46	22.0

DATE: 5 10 1978

TIME (PDT)	AEROSOL CONCENTRATIONS FOR SIZES > INDICATED DIAM. >0.01UM (/CM↑3)	>0.1UM (/CM↑3)	>0.32UM (/CM↑3)	>0.56UM (/CM↑3)
3	2730	187	49	18.0
17	1502	187	49	18.0
22	574	220	45	13.0
28	371	225	49	18.0
31	597	195	57	18.0
45	343	142	38	22.0
226	367	221	69	22.0
236	1426	214	86	31.0
535	2295	62	24	8.9
643	1144	27	N/A	N/A
656	1083	14	N/A	N/A
731	452	47	N/A	N/A
755	2207	21	8	N/A
833	368	14	N/A	N/A
1132	99	0	N/A	N/A
1152	1172	8	8	N/A
1248	1200	32	9	8.9
1332	1186	18	5	4.5
1532	20	20	20	4.5
1645	164	18	5	4.5
1648	1383	8	8	N/A
1657	75	27	N/A	N/A
1747	384	78	N/A	N/A
1759	103	5	5	4.5
1846	330	24	N/A	N/A
2032	127	28	5	4.5
2044	328	21	8	N/A
2114	1284	18	5	4.5
2129	420	18	5	4.5
2226	214	67	17	8.9
2241	134	38	24	8.9
2331	1129	12	12	4.5
2340	358	52	5	4.5

DATE: 5 11 1978

TIME (PDT)	AEROSOL CONCENTRATIONS FOR SIZES > INDICATED DIAM. >0.01UM (/CM↑3)	>0.1UM (/CM↑3)	>0.32UM (/CM↑3)	>0.56UM (/CM↑3)
34	1214	46	9	8.9
230	249	52	24	8.9
236	385	78	28	4.5
436	1273	105	31	N/A
447	1516	93	29	13.0
521	793	85	21	13.0
620	1079	177	32	8.9
718	1456	98	N/A	N/A
731	1636	118	20	4.4
1000	502	100	16	N/A
1030	414	175	17	8.9
1126	356	63	16	N/A
1131	452	98	N/A	N/A
1226	294	151	16	N/A
1256	350	159	28	4.5
1304	342	151	16	N/A
1335	401	159	24	8.9
1403	2505	173	24	8.9
1614	1533	240	24	8.6
1624	1545	238	56	40.0
1808	725	92	8	N/A
2022	843	149	31	N/A
2041	739	92	5	4.5
2119	732	133	16	N/A
2138	525	134	12	4.5
2156	533	145	23	N/A

DATE: 5 12 1978

TIME (PDT)	AEROSOL CONCENTRATIONS FOR SIZES > INDICATED DIAM. >0.01UM (/CM↑3)	>0.1UM (/CM↑3)	>0.32UM (/CM↑3)	>0.56UM (/CM↑3)
254	1147	312	32	8.9
302	1415	322	32	8.9
321	4256	239	20	4.5
340	1063	385	44	13.0
359	744	261	28	4.5
443	816	281	24	8.9
503	1235	285	29	13.0
522	1673	269	37	13.0
541	715	330	37	13.0
600	1010	482	53	22.0
610	907	375	45	13.0
619	1117	426	44	13.0
638	795	311	45	13.0
708	688	306	46	22.0
716	6068	356	49	18.0
1012	5151	1472	92	22.0
1022	7532	1406	91	13.0
1038	17930	2394	116	22.0
1058	16290	6380	202	31.0
1111	10120	4029	150	18.0
1117	11090	4665	156	31.0
1136	19680	6753	218	31.0
1155	18830	7811	238	36.0
1214	14900	8144	258	40.0
1233	20970	7789	246	35.0
1253	15540	6919	981	
1303	34520	8440	253	35.0
1454	15580	7647	258	40.0
1526	10640	6212	238	36.0
1740	18750	6099	266	40.0
1759	8683	2658	139	22.0
1819	4173	1995	107	13.0
1838	7845	1575	71	8.9
1856	20040	2496	96	18.0
1908	9251	2307	96	18.0
1916	5767	2251	100	22.0
1935	22010	2518	111	18.0
1954	5632	1660	96	18.0
2013	9603	1652	88	18.0
2032	4855	1645	91	13.0
2052	6242	1816	80	18.0
2101	5890	1934	80	18.0
2110	5904	2101	92	22.0
2129	6166	2145	96	18.0
2148	8175	2371	99	13.0
2208	5610	2219	96	18.0
2227	6110	2167	88	18.0
2246	7959	2273	99	13.0
2306	6147	2555	91	13.0
2325	6065	2476	83	13.0
2344	5703	2257	83	13.0

DATE: 5 13 1978

TIME (PDT)	AEROSOL CONCENTRATIONS FOR SIZES > INDICATED DIAM. >0.01UM (/CM↑3)	>0.1UM (/CM↑3)	>0.32UM (/CM↑3)	>0.56UM (/CM↑3)
3	6160	2297	96	18.0
23	5369	2217	80	18.0
42	6980	2336	88	18.0
101	119700	2657	99	13.0
121	8078	2753	103	18.0
140	9697	2198	74	4.4
159	12770	337	52	13.0
218	7687	1458	56	8.9
238	6388	1385	47	N/A
257	6563	1365	51	4.4
316	7017	1484	52	13.0
335	7848	1736	48	8.9
413	13480	2432	63	8.9
433	9517	2441	72	18.0
452	10210	2558	68	13.0
511	12660	2576	72	18.0
531	11310	2373	71	8.9
550	10630	2235	68	13.0
609	7066	1674	60	13.0
628	7441	1451	52	13.0
647	6086	1403	56	8.9
659	5352	1380	56	8.9
706	5508	1380	56	8.9
725	4599	1339	48	8.9
744	5608	1323	56	8.9
804	4137	1271	51	4.5
823	7344	1329	48	8.9
854	7971	1309	36	4.4
912	6079	1304	40	8.9
930	8203	1360	36	4.4
1006	6784	1633	36	4.4
1100	7311	1836	47	N/A
1108	8345	1805	43	4.5
1215	6078	1870	43	4.4
1221	15750	1873	47	N/A
1356	8731	1572	56	8.9
1416	21130	2156	70	N/A
1435	10900	2399	63	8.9
1606	9051	1896	52	13.0
1754	3607	1021	43	4.5
1848	6291	1397	36	4.5
1852	5227	1344	43	4.5
1904	5529	1234	41	18.0
1941	4298	1262	52	13.0
1949	4859	1323	56	8.9
2057	7099	1139	60	13.0
2316	5952	1667	76	13.0
2319	3742	1707	72	18.0
2338	3846	1818	76	13.0
2357	5774	1908	88	17.0

DATE: 5 14 1978

TIME (PDT)	AEROSOL CONCENTRATIONS FOR SIZES > INDICATED DIAM. >0.01UM (/CM↑3)	>0.1UM (/CM↑3)	>0.32UM (/CM↑3)	>0.56UM (/CM↑3)
11	4155	1814	91	13.0
16	3790	1912	91	13.0
35	5015	1764	79	8.9
106	4402	2064	79	8.9
113	5840	1673	76	13.0
132	4086	2051	76	13.0
151	3711	1935	71	8.9
210	5434	2144	91	13.0
230	4553	2191	71	8.9
249	6220	1987	76	13.0
424	7800	1391	60	13.0
443	4369	848	36	4.4
502	23930	1003	36	4.5
521	5025	685	28	4.3
540	3204	347	20	4.4
813	4063	1579	39	N/A
823	4464	1527	31	N/A
831	4917	1571	28	4.5
839	5543	1589	36	4.4
851	6998	1884	51	4.2
858	3499	1459	40	8.9
917	5231	1379	28	4.4
936	4881	1431	59	4.5
955	4083	1922	71	8.9
1014	4625	1886	79	8.9
1023	4555	1914	63	8.9
1059	4066	1901	71	8.6
1326	4619	1669	68	13.0
1344	4909	1818	82	4.5
1422	3240	1396	71	8.9
1441	2912	1375	63	8.9
1500	4265	1391	76	13.0
1519	2849	1461	76	13.0
1538	5225	1549	76	13.0
1557	5612	1443	68	13.0
1617	5846	1341	63	8.9
1636	8224	1561	88	18.0
1655	8879	1590	99	13.0
1714	13360	1653	79	8.9
1733	15260	1507	48	8.9
1752	18920	1503	43	4.4
1859	12470	502	20	4.1
2101	474	184	12	4.5
2139	883	192	20	4.5
2158	1492	253	20	4.5
2255	393	151	12	4.5
2314	295	148	23	N/A
2333	290	144	16	N/A
2352	1357	210	28	4.5

DATE: 5 15 1978

TIME (PDT)	AEROSOL CONCENTRATIONS FOR SIZES > INDICATED DIAM. >0.01UM (/CM↑3)	>0.1UM (/CM↑3)	>0.32UM (/CM↑3)	>0.56UM (/CM↑3)
11	1706	188	12	4.4
30	295	152	23	N/A
50	2142	660	60	13.0
109	564	210	24	8.9
128	791	243	63	8.9
147	1307	190	28	4.5
225	394	200	28	4.5
244	2466	233	23	N/A
303	370	227	28	4.5
322	772	227	28	4.5
341	649	213	23	N/A
400	1116	214	24	8.9
419	714	214	24	8.9
438	611	209	20	4.5
516	1633	162	23	N/A
535	1516	154	16	N/A
554	313	215	16	N/A
613	404	159	20	4.5
632	664	164	16	N/A
652	872	164	16	N/A
710	357	163	28	4.5
803	788	192	20	4.5
807	2170	199	23	N/A
909	1596	237	28	4.5
957	2081	433	48	8.9
1052	1828	306	32	8.9
1150	1097	246	23	N/A
1257	555	218	32	8.9
1316	537	199	20	4.5
1335	819	172	20	4.4
1354	809	261	28	4.4
1413	2235	431	40	8.9
1432	1135	348	28	4.4
1451	1821	331	20	4.5
1529	2006	298	28	4.4
1548	674	225	16	N/A
1607	1960	319	16	N/A
1626	2756	299	16	N/A
1645	4204	300	20	4.5
1704	4400	265	12	4.5
1723	4763	203	8	N/A
1743	3516	166	8	N/A
1802	1752	88	N/A	N/A
1858	2424	124	12	4.5
1918	2612	124	12	4.5
1937	1906	96	8	N/A
1956	1777	55	5	4.5

DATE: 5 16 1978

TIME (PDT)	AEROSOL CONCENTRATIONS FOR SIZES > INDICATED DIAM. >0.01UM (/CM↑3)	>0.1UM (/CM↑3)	>0.32UM (/CM↑3)	>0.56UM (/CM↑3)
1303	30310	675	28	4.4
1313	38690	628	24	8.9
1403	29980	704	16	8.6
1420	29390	795	23	N/A
1440	29200	911	78	N/A
1459	28230	1037	12	4.4
1752	83680	1219	33	18.0

DATE: 5 18 1978

TIME (PDT)	AEROSOL CONCENTRATIONS FOR SIZES > INDICATED DIAM. >0.01UM (/CM↑3)	>0.1UM (/CM↑3)	>0.32UM (/CM↑3)	>0.56UM (/CM↑3)
826	231300	3805	78	8.6
851	74380	6741	150	17.5
911	844100	6172	91	13.5
930	329300	7365	99	12.9
949	174700	4535	66	4.1
1009	835600	6115	120	3.7
1028	173900	4369	74	19.9
1047	39230	3527	88	18.8
1126	40920	5017	118	24.5
1147	42490	6569	140	N/A
1151	113100	2787	55	8.5
1204	18910	3146	66	4.2
1214	21790	3370	68	13.4
1224	33320	3655	63	8.6
1243	20180	4172	75	4.4
1302	20220	4496	76	13.3
1321	18090	4643	91	13.1
1340	17670	4406	84	13.4
1359	11360	3567	64	8.9
1418	12420	3449	64	8.9
1437	9126	2568	51	4.5
1456	9981	2773	51	4.1
1516	7898	2466	44	4.4
1535	11600	2992	48	8.9
1554	6153	1797	36	4.5
1608	6991	1866	43	4.4
1631	5373	2113	48	8.9
1650	6835	2360	56	8.9
1709	10400	2140	48	8.9
1728	11900	1971	47	N/A
1747	6352	1793	48	8.9

DATE: 5 18 1978 CONTINUED

1804	6869	1753	48	8.9
1806	6447	1790	48	8.9
1826	12550	2049	48	8.9
1845	8351	1964	43	4.4
1904	7490	1890	40	8.9
1923	8245	1728	47	N/A
2002	6114	1562	46	22.3
2014	6699	1758	40	8.9
2021	7337	1781	36	4.4
2039	18400	555	16	N/A
2050	6701	1948	48	8.9
2059	6266	1929	53	13.4
2118	6543	1885	56	8.9
2138	6965	1788	53	13.4
2147	5825	1573	43	4.4
2157	5398	1425	40	8.9
2216	5929	1364	43	4.4
2235	5702	1396	48	8.9
2254	8310	1317	40	8.9
2313	5987	1445	44	4.4
2332	5484	1270	40	8.9
2352	4594	970	40	8.9

DATE: 5 19 1978

TIME (PDT)	AEROSOL CONCENTRATIONS FOR SIZES > INDICATED DIAM. >0.01UM (/CM↑3)	>0.1UM (/CM↑3)	>0.32UM (/CM↑3)	>0.56UM (/CM↑3)
11	4598	899	43	4.5
30	3656	825	40	8.9
49	4790	778	40	8.9
108	3885	731	40	8.9
127	2830	850	28	4.5
146	4021	1027	33	8.9
206	4167	1118	43	4.5
244	3160	1330	56	8.9
303	4552	1412	64	8.9
655	3768	961	51	4.5
701	3146	942	56	8.9
711	2918	969	56	8.9
807	1777	1133	72	17.8
828	2489	793	51	4.4
847	3288	762	43	4.4
902	5708	781	39	N/A
906	2428	721	40	8.9
1016	3732	857	68	13.4
1022	3235	916	76	13.4
1058	4501	1018	83	13.4
1242	4524	1047	96	17.8
1358	6672	1188	189	80.3

DATE: 5 19 1978 CONTINUED

1412	7073	1183	123	22.3
1431	5646	1173	103	17.8
1450	7142	1184	91	13.4
1510	3446	1260	260	57.9
1529	5799	1284	107	13.4
1548	6269	1352	115	13.4
1607	6458	1412	124	22.3
1626	6283	1379	115	13.4
1646	6056	1395	107	13.4
1705	5816	1353	111	17.8
1724	6802	4364	90	13.4
1743	6901	1317	112	26.2
1802	4751	1291	100	22.3
1834	3517	1154	88	17.8
1840	3245	1092	83	13.4
1859	2899	1049	91	13.4
1915	3120	1059	91	13.4
2058	1690	773	71	8.9
2113	2748	765	60	13.4
2132	3701	741	64	8.9
2152	2063	732	63	8.9
2208	3062	709	65	17.8

DATE: 5 20 1978

TIME (PDT)	AEROSOL CONCENTRATIONS FOR SIZES > INDICATED DIAM. >0.01UM (/CM↑3)	>0.1UM (/CM↑3)	>0.32UM (/CM↑3)	>0.56UM (/CM↑3)
6	2629	786	71	8.9
25	1883	807	68	13.4
44	1783	757	56	8.9
103	2727	742	64	8.9
201	1959	835	72	17.8
220	2883	785	80	17.8
239	2938	792	63	8.9
258	1575	805	76	13.4
317	1636	815	76	13.4
336	1809	831	79	8.9
355	1914	889	79	8.9
414	2359	945	91	13.4
433	1740	922	76	13.4
453	2925	892	79	8.9
512	4403	600	20	4.4
531	2034	957	64	8.9
550	1740	970	72	17.8
609	1901	1087	88	17.8
628	4287	1073	92	13.4
647	1804	1034	76	13.4
706	2200	1123	92	13.4
816	1843	1124	88	17.8

DATE: 5 20 1978 CONTINUED

TIME (PDT)	AEROSOL CONCENTRATIONS FOR SIZES > INDICATED DIAM. >0.01UM (/CM↑3)	>0.1UM (/CM↑3)	>0.32UM (/CM↑3)	>0.56UM (/CM↑3)
832	2921	1082	87	8.9
905	2900	1061	76	13.4
954	3110	623	20	4.4
1014	2987	1036	86	17.6
1105	4994	1163	77	22.0
1111	1892	1108	76	13.4
1158	1710	984	63	8.9
1208	2055	866	64	8.9
1227	1543	967	76	13.4
1247	2130	941	72	8.9
1306	2585	943	59	4.5
1325	1972	892	56	8.9
1344	2477	833	63	8.9
1403	1382	802	64	8.9
1422	1468	790	72	8.9
1441	2483	784	59	4.5
1500	1798	814	48	8.9
1519	2705	801	59	4.5
1539	2693	901	52	4.5
1558	1502	875	62	N/A
1617	2240	1003	59	4.5
1636	2948	1060	59	4.5
1655	1805	1068	60	13.4
1714	1805	1068	60	13.4
1733	1884	1066	52	4.5
1752	4063	1008	43	4.5
1812	2127	955	52	4.5
1831	3908	1003	53	13.4
1850	1671	1002	48	8.9
1909	2921	1034	56	8.9
1928	1771	1052	60	13.4
1947	2949	1058	67	4.5
2006	1782	1108	59	4.5
2026	1958	1079	63	8.9
2045	1719	1047	56	8.9
2104	1922	1104	76	13.4
2123	2717	1024	56	8.9
2142	1638	1015	60	13.4
2201	3554	1102	60	13.4
2220	3899	1041	64	8.9
2239	1681	1061	56	8.9
2259	1942	1076	72	8.9
2358	2958	1071	56	8.9

DATE: 5 21 1978

TIME (PDT)	AEROSOL CONCENTRATIONS FOR SIZES > INDICATED DIAM. >0.01UM (/CM↑3)	>0.1UM (/CM↑3)	>0.32UM (/CM↑3)	>0.56UM (/CM↑3)
303	1815	1045	64	8.9
307	2002	1024	60	13.4
326	1692	1020	56	8.9
345	1614	1038	60	13.4
404	2084	1109	64	8.9
423	2849	1057	56	8.9
442	2799	1058	44	4.4
521	2172	1032	40	8.9
540	1834	1013	53	13.4
559	1702	980	52	13.4
618	1623	952	48	8.9
637	2074	998	43	4.5
656	1749	928	48	8.9
708	1650	928	51	4.5
1011	1874	944	91	13.4
1024	951	852	227	8.9
1045	1713	936	56	8.9
1104	3779	918	48	8.9
1203	3960	906	59	4.4
1221	3302	949	56	8.9
1240	1592	870	47	N/A
1259	2510	817	54	N/A
1319	2158	871	47	8.9
1338	3019	921	51	4.4
1357	3771	910	63	8.9
1416	2683	1171	68	13.4
1435	4079	1079	60	13.4
1454	1926	999	54	N/A
1514	1759	876	43	4.5
1533	1496	869	36	4.5
1552	1751	869	36	4.5
1611	10650	1093	51	4.3
1625	8951	1577	40	8.9
1630	11750	1361	44	4.5
1649	9809	1120	48	8.9
1708	5933	942	28	4.4
1727	2128	889	36	4.5
1805	1470	734	32	8.9
1844	17590	765	43	4.5
1903	1714	777	56	8.9
1922	3001	791	53	13.4
1941	1378	799	47	N/A
2000	1498	762	47	N/A
2020	3771	860	60	13.4
2039	2575	865	76	13.4

DATE: 5 21 1978 CONTINUED

2058	1789	791	62	N/A
2117	2808	792	64	8.9
2136	3601	826	60	13.4
2155	21040	800	72	8.9
2214	2237	851	72	8.9
2233	1239	806	64	8.9
2252	3029	769	64	8.9
2312	2590	782	64	8.9
2331	1310	779	60	13.4
2350	1604	817	68	13.4

DATE: 5 22 1978

TIME (PDT)	AEROSOL CONCENTRATIONS FOR SIZES > INDICATED DIAM. >0.01UM (/CM↑3)	>0.1UM (/CM↑3)	>0.32UM (/CM↑3)	>0.56UM (/CM↑3)
9	2246	847	71	8.9
28	1962	906	59	4.5
47	1854	771	56	8.9
106	1985	790	72	8.9
125	1507	765	64	8.9
144	1433	741	60	13.4
203	1454	810	68	13.4
222	2515	911	91	13.4
242	2357	971	107	13.4
301	2468	915	71	8.9
320	2441	891	71	8.9
339	1584	845	56	8.9
358	2233	847	72	8.9
417	1901	808	79	8.9
436	1662	776	71	8.9
455	3722	763	71	8.9
514	1479	692	71	8.9
533	1802	610	64	8.9
552	3476	548	76	13.4
611	1403	552	56	8.9
630	1917	610	60	13.4
649	1032	596	56	8.9
705	897	560	60	8.9
709	1117	569	56	8.9
728	1195	500	52	4.5
747	1024	476	40	8.9
804	844	554	45	13.4
806	3043	564	45	13.4
825	2099	543	43	4.5
903	1151	555	59	4.5
941	1814	504	45	13.4
1000	6743	483	48	8.9
1018	1868	384	23	N/A
1039	2082	465	43	4.5

DATE: 5 22 1978 CONTINUED

1058	942	397	36	4.4
1117	1854	397	36	4.5
1136	1736	425	41	8.9
1218	1399	446	45	13.4
1233	1158	416	51	4.4
1253	1533	386	48	8.9
1312	2773	397	36	4.4
1331	2749	377	39	N/A
1350	2416	360	36	4.4
1401	2790	417	32	8.9
1501	4066	413	36	4.5
1539	3416	343	36	4.5
1558	2578	367	72	4.9
1617	2923	485	23	N/A
1637	4581	299	16	N/A
1831	19680	370	16	N/A
1835	17700	377	23	N/A
1838	12780	345	26	4.2
1854	9475	343	12	4.4
2042	16730	488	23	N/A
2045	21240	470	28	4.6
2049	17430	491	16	N/A
2301	14150	920	108	23.0
2303	31180	665	28	4.4
2322	25950	677	43	4.4
2341	23010	687	39	8.7

DATE: 5 23 1978

TIME (PDT)	AEROSOL CONCENTRATIONS FOR SIZES > INDICATED DIAM. >0.01UM (/CM↑3)	>0.1UM (/CM↑3)	>0.32UM (/CM↑3)	>0.56UM (/CM↑3)
1	19840	683	36	4.5
20	15300	682	45	13.4
39	9844	659	28	4.5
58	27710	804	35	4.2
136	19670	527	28	4.5
155	47040	1051	43	4.3
214	67740	1042	44	13.0
233	15420	609	32	8.6
252	8027	491	36	4.4
311	7884	614	37	13.4
447	25860	694	43	4.5
506	25060	732	48	8.9
525	40340	756	48	8.7
544	27810	654	40	8.9
641	26250	655	31	N/A
719	1700	722	28	4.4
738	51560	786	31	N/A
757	5899	559	17	8.9

DATE: 5 23 1978 CONTINUED

TIME (PDT)	AEROSOL CONCENTRATIONS FOR SIZES > INDICATED DIAM. >0.01UM (/CM↑3)	>0.1UM (/CM↑3)	>0.32UM (/CM↑3)	>0.56UM (/CM↑3)
803	7774	583	N/A	N/A
811	7611	324	24	8.9
1047	128700	1303	15	N/A
1050	129500	495	23	N/A
1109	129700	494	9	8.7
1128	173300	547	32	8.6
1147	80610	350	23	N/A
1206	78560	272	12	4.2
1226	107500	295	15	N/A
1245	110500	258	15	N/A
1304	116100	357	20	4.1
1326	158600	394	20	4.2
1342	107600	240	8	N/A
1401	109400	249	20	4.1
1421	114600	315	15	N/A
1440	84260	287	8	N/A
1459	76620	302	12	4.2
1519	131100	545	20	4.2
1537	49950	305	15	N/A
1557	50550	292	15	N/A
1616	42250	319	15	N/A
1635	44350	261	9	8.5
1654	41290	270	N/A	N/A
1713	36500	226	24	8.6
1732	27690	190	4	4.2
1752	22480	153	8	N/A
1811	24130	176	8	N/A
1819	13660	137	16	N/A
1830	14630	139	5	4.5
1849	13870	91	17	8.9
1908	11900	149	5	4.5
1927	10520	100	12	4.4
1947	8095	110	9	8.9
2005	6990	86	16	N/A
2025	6141	139	5	4.5
2044	5160	181	16	N/A
2122	9612	166	8	N/A
2128	8077	204	12	4.4

APPENDIX C

EXAMPLES OF SEA SPRAY SIZE SPECTRA

ANALYSIS OF MEASURED DROP SIZE DISTRIBUTION

DATE = 18MAY78 RUN NUMBER 0 TIME = 18:12 SLIDE NUMBER 0

ALTITUDE 0. METERS

TEMPERATURE = 10.0C PRESSURE = 1000.0MB AIR VELOCITY = 50.0M/SEC SLIDE WIDTH = 5.0MM

SLIDE AREA ANALYZED = 0.0028SQUARE CM SLIDE EXPOSURE TIME = 30.000SEC

TOTAL NUMBER OF DROPS (MEASURED) = 319.0
TOTAL NUMBER OF DROPS (CORRECTED) =******

MEAN RADIUS IN MICRONS = 0.5 MEAN SQUARE RADIUS IN MICRONS = 0.6 MEAN VOLUME RADIUS IN MICRONS = 0.7
STANDARD DEVIATION IN MICRONS = 0.2 COEFFICIENT OF VARIATION =0.412 SKEWNESS = 9.960 KURTOSIS =144.958

RADIUS IN MICRONS =	0.5	1.5	2.5	3.5	4.5	5.5	6.5
MEASURED NUMBER OF DROPS =	151.0	124.0	28.0	10.0	4.0	1.0	1.0
CORRECTED NUMBER OF DROPS =	******	334.6	41.3	12.7	4.7	1.1	1.1
NUMBER OF DROPS PER CC =	******	0.7966	0.0983	0.0302	0.0112	0.0027	0.0026
LWC(MGRAMS/CUBIC METER) =	0.0188	0.0113	0.0064	0.0054	0.0043	0.0019	0.0030
PERCENTAGE OF DROPS =	97.4	2.2	0.3	0.1	0.0	0.0	0.0
PERCENTAGE OF LWC =	36.9	22.0	12.6	10.6	8.4	3.7	5.9

TOTAL NUMBER OF DROPS PER CC = 36.894 LWC IN GRAMS PER CUBIC METER =0.000051
EXTINCTION COEFFICIENT PER METER =0.0000765 VISIBILITY IN METERS = 51108.

ANALYSIS OF MEASURED DROP SIZE DISTRIBUTION

DATE = 18MAY78 RUN NUMBER 0 TIME = 19:08 SLIDE NUMBER 0

ALTITUDE = 0. METERS

TEMPERATURE = 10.0C PRESSURE = 1000.0MB AIR VELOCITY = 49.2M/SEC SLIDE WIDTH = 4.4MM

SLIDE AREA ANALYZED = 0.0028SQUARE CM SLIDE EXPOSURE TIME = 40.000SEC

TOTAL NUMBER OF DROPS (MEASURED) = 369.0
TOTAL NUMBER OF DROPS (CORRECTED) =******

MEAN RADIUS IN MICRONS = 0.5 MEAN SQUARE RADIUS IN MICRONS = 0.6 MEAN VOLUME RADIUS IN MICRONS = 0.7
STANDARD DEVIATION IN MICRONS = 0.2 COEFFICIENT OF VARIATION =0.453 SKEWNESS = 9.787 KURTOSIS =144.835

RADIUS IN MICRONS =	0.5	1.5	2.5	3.5	4.5	5.5	6.5
MEASURED NUMBER OF DROPS =	149.0	173.0	25.0	14.0	3.0	3.0	2.0
CORRECTED NUMBER OF DROPS =	******	419.1	35.6	17.4	3.5	3.3	2.2
NUMBER OF DROPS PER CC =	******	0.7606	0.0646	0.0315	0.0063	0.0061	0.0039
LWC(MGRAMS/CUBIC METER) =	0.0142	0.0108	0.0042	0.0057	0.0024	0.0042	0.0045
PERCENTAGE OF DROPS =	96.9	2.7	0.2	0.1	0.0	0.0	0.0
PERCENTAGE OF LWC =	30.8	23.4	9.2	12.3	5.2	9.2	9.9

TOTAL NUMBER OF DROPS PER CC = 27.913 LWC IN GRAMS PER CUBIC METER =0.000046
EXTINCTION COEFFICIENT PER METER =0.0000612 VISIBILITY IN METERS = 63937.

ANALYSIS OF MEASURED DROP SIZE DISTRIBUTION

DATE = 18MAY78 RUN NUMBER 0 TIME = 19:17 SLIDE NUMBER 0

ALTITUDE = 0. METERS

TEMPERATURE = 10.0C PRESSURE = 1000.0MB AIR VELOCITY = 50.0M/SEC SLIDE WIDTH = 4.9MM

SLIDE AREA ANALYZED = 0.0039SQUARE CM SLIDE EXPOSURE TIME = 15.000SEC

TOTAL NUMBER OF DROPS (MEASURED) = 283.0
TOTAL NUMBER OF DROPS (CORRECTED) =******

MEAN RADIUS IN MICRONS = 0.5 MEAN SQUARE RADIUS IN MICRONS = 0.6 MEAN VOLUME RADIUS IN MICRONS = 0.8
STANDARD DEVIATION IN MICRONS = 0.2 COEFFICIENT OF VARIATION =0.461 SKEWNESS = 13.085 KURTOSIS =254.672

RADIUS IN MICRONS =	0.5	1.5	2.5	3.5	4.5	5.5	6.5	7.5	8.5
MEASURED NUMBER OF DROPS =	134.0	113.0	17.0	4.0	9.0	3.0	2.0	0.0	1.0
CORRECTED NUMBER OF DROPS =	******	298.9	24.9	5.1	10.5	3.4	2.2	0.0	1.1
NUMBER OF DROPS PER CC =	******	1.0219	0.0851	0.0173	0.0361	0.0115	0.0075	0.0	0.0036
LWC(MGRAMS/CUBIC METER) =	0.0240	0.0144	0.0056	0.0031	0.0138	0.0080	0.0086	0.0	0.0093
PERCENTAGE OF DROPS =	97.5	2.2	0.2	0.0	0.1	0.0	0.0	0.0	0.0
PERCENTAGE OF LWC =	27.6	16.6	6.4	3.6	15.9	9.2	9.9	0.0	10.7

TOTAL NUMBER OF DROPS PER CC = 46.995 LWC IN GRAMS PER CUBIC METER =0.000087
EXTINCTION COEFFICIENT PER METER =0.0001015 VISIBILITY IN METERS = 38547.

ANALYSIS OF MEASURED DROP SIZE DISTRIBUTION

DATE = 18MAY78 RUN NUMBER 0 TIME = 19:30 SLIDE NUMBER 0

ALTITUDE = 0. METERS

TEMPERATURE = 10.0C PRESSURE = 1000.0MB AIR VELOCITY = 56.0M/SEC SLIDE WIDTH = 4.8MM

SLIDE AREA ANALYZED = 0.0033SQUARE CM SLIDE EXPOSURE TIME = 30.000SEC

TOTAL NUMBER OF DROPS (MEASURED) = 326.0
TOTAL NUMBER OF DROPS (CORRECTED) =******

MEAN RADIUS IN MICRONS = 0.5 MEAN SQUARE RADIUS IN MICRONS = 0.6 MEAN VOLUME RADIUS IN MICRONS = 0.8
STANDARD DEVIATION IN MICRONS = 0.2 COEFFICIENT OF VARIATION =0.454 SKEWNESS = 17.190 KURTOSIS =654.344

RADIUS IN MICRONS =	0.5	1.5	2.5	3.5	4.5	5.5	6.5	7.5	8.5	9.5	10.5	11.5	12.5	13.5
MEASURED NUMBER OF DROPS =	142.0	133.0	40.0	7.0	2.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0
CORRECTED NUMBER OF DROPS =******		316.0	56.8	8.7	2.3	0.0	1.1	0.0	0.0	0.0	0.0	0.0	0.0	1.0
NUMBER OF DROPS PER CC =******	0.5700	0.1024	0.0156	0.0042	0.0	0.0020	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0019
LWC(NGRAMS/CUBIC METER) =0.0134	0.0081	0.0067	0.0028	0.0016	0.0	0.0023	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0191
PERCENTAGE OF DROPS =	97.4	2.2	0.4	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PERCENTAGE OF LWC =	24.9	15.0	12.4	5.2	3.0	0.0	4.2	0.0	0.0	0.0	0.0	0.0	0.0	35.4

TOTAL NUMBER OF DROPS PER CC = 26.309 LWC IN GRAMS PER CUBIC METER =0.000054
EXTINCTION COEFFICIENT PER METER =0.0000567 VISIBILITY IN METERS = 69015.

ANALYSIS OF MEASURED DROP SIZE DISTRIBUTION

DATE = 18MAY78 RUN NUMBER 0 TIME = 20:10 SLIDE NUMBER 0

ALTITUDE = 0. METERS

TEMPERATURE = 10.0C PRESSURE = 1000.0MB AIR VELOCITY = 48.0M/SEC SLIDE WIDTH = 4.4MM

SLIDE AREA ANALYZED = 0.0028SQUARE CM SLIDE EXPOSURE TIME = 20.000SEC

TOTAL NUMBER OF DROPS (MEASURED) = 324.0
TOTAL NUMBER OF DROPS (CORRECTED) =******

MEAN RADIUS IN MICRONS = 0.5 MEAN SQUARE RADIUS IN MICRONS = 0.6 MEAN VOLUME RADIUS IN MICRONS = 0.7
STANDARD DEVIATION IN MICRONS = 0.2 COEFFICIENT OF VARIATION =0.419 SKEWNESS = 8.670 KURTOSIS =105.037

RADIUS IN MICRONS =	0.5	1.5	2.5	3.5	4.5	5.5
MEASURED NUMBER OF DROPS =	140.0	130.0	43.0	7.0	2.0	2.0
CORRECTED NUMBER OF DROPS =	******	321.0	61.6	8.7	2.3	2.2
NUMBER OF DROPS PER CC =	******	1.1941	0.2292	0.0324	0.0086	0.0083
LWC(MGRAMS/CUBIC METER) =	0.0273	0.0169	0.0150	0.0058	0.0033	0.0058
PERCENTAGE OF DROPS =	97.3	2.2	0.4	0.1	0.0	0.0
PERCENTAGE OF LWC =	36.8	22.8	20.3	7.9	4.4	7.8

TOTAL NUMBER OF DROPS PER CC = 53.556 LWC IN GRAMS PER CUBIC METER =0.000074
EXTINCTION COEFFICIENT PER METER =0.0001129 VISIBILITY IN METERS = 34663.

ANALYSIS OF MEASURED DROP SIZE DISTRIBUTION

DATE = 18MAY78 RUN NUMBER 0 TIME = 20:30 SLIDE NUMBER 0

ALTITUDE = 0. METERS

TEMPERATURE = 10.0C PRESSURE = 1000.0MB AIR VELOCITY = 49.2M/SEC SLIDE WIDTH = 4.4MM

SLIDE AREA ANALYZED = 0.0039SQUARE CM SLIDE EXPOSURE TIME = 10.000SEC

TOTAL NUMBER OF DROPS (MEASURED) = 296.0
TOTAL NUMBER OF DROPS (CORRECTED) =******

MEAN RADIUS IN MICRONS = 0.5 MEAN SQUARE RADIUS IN MICRONS = 0.6 MEAN VOLUME RADIUS IN MICRONS = 0.7
STANDARD DEVIATION IN MICRONS = 0.2 COEFFICIENT OF VARIATION =0.415 SKEWNESS = 10.869 KURTOSIS =179.973

RADIUS IN MICRONS =	0.5	1.5	2.5	3.5	4.5	5.5	6.5
MEASURED NUMBER OF DROPS =	136.0	118.0	28.0	10.0	0.0	2.0	2.0
CORRECTED NUMBER OF DROPS =	******	285.9	39.9	12.4	0.0	2.2	2.2
NUMBER OF DROPS PER CC =	*******	1.4898	0.2079	0.0646	0.0	0.0116	0.0113
LWC(MGRAMS/CUBIC METER) =	0.0371	0.0211	0.0136	0.0116	0.0	0.0081	0.0130
PERCENTAGE OF DROPS =	97.5	2.1	0.3	0.1	0.0	0.0	0.0
PERCENTAGE OF LWC =	35.5	20.2	13.0	11.1	0.0	7.7	12.4

TOTAL NUMBER OF DROPS PER CC = 72.663 LWC IN GRAMS PER CUBIC METER =0.000104
EXTINCTION COEFFICIENT PER METER =0.0001507 VISIBILITY IN METERS = 25953.

ANALYSIS OF MEASURED DROP SIZE DISTRIBUTION

DATE = 1 MAY78 RUN NUMBER 0 TIME = 21:40 SLIDE NUMBER 0

ALTITUDE = 0. METERS

TEMPERATURE = 10.0C PRESSURE = 1000.0MB AIR VELOCITY = 49.2M/SEC SLIDE WIDTH = 4.9MM

SLIDE AREA ANALYZED = 0.0044SQUARE CM SLIDE EXPOSURE TIME = 5.000SEC

TOTAL NUMBER OF DROPS (MEASURED) = 382.0
TOTAL NUMBER OF DROPS (CORRECTED) =******

MEAN RADIUS IN MICRONS = 0.5 MEAN SQUARE RADIUS IN MICRONS = 0.6 MEAN VOLUME RADIUS IN MICRONS = 0.7
STANDARD DEVIATION IN MICRONS = 0.2 COEFFICIENT OF VARIATION =0.457 SKEWNESS = 9.039 KURTOSIS =117.856

RADIUS IN MICRONS =	0.5	1.5	2.5	3.5	4.5	5.5	6.5
MEASURED NUMBER OF DROPS =	159.0	164.0	39.0	7.0	11.0	1.0	1.0
CORRECTED NUMBER OF DROPS =	******	439.7	57.4	8.9	12.9	1.1	1.1
NUMBER OF DROPS PER CC =	******	4.0619	0.5299	0.0819	0.1193	0.0104	0.0101
LWC(MGRAMS/CUBIC METER) =	0.0769	0.0574	0.0347	0.0147	0.0455	0.0072	0.0116
PERCENTAGE OF DROPS =	96.8	2.7	0.3	0.1	0.1	0.0	0.0
PERCENTAGE OF LWC =	31.0	23.1	14.0	5.9	18.4	2.9	4.7

TOTAL NUMBER OF DROPS PER CC = 151.709 LWC IN GRAMS PER CUBIC METER =0.000248
EXTINCTION COEFFICIENT PER METER =0.0003351 VISIBILITY IN METERS = 11674.

ANALYSIS OF MEASURED DROP SIZE DISTRIBUTION

DATE = 18MAY78 RUN NUMBER 0 TIME = 21:50 SLIDE NUMBER 0

ALTITUDE = 0. METERS

TEMPERATURE = 10.0C PRESSURE = 1000.0MB AIR VELOCITY = 49.2M/SEC SLIDE WIDTH = 4.2MM

SLIDE AREA ANALYZED = 0.0044SQUARE CM SLIDE EXPOSURE TIME = 15.000SEC

TOTAL NUMBER OF DROPS (MEASURED) = 363.0
TOTAL NUMBER OF DROPS (CORRECTED) =******

MEAN RADIUS IN MICRONS = 0.5 MEAN SQUARE RADIUS IN MICRONS = 0.6 MEAN VOLUME RADIUS IN MICRONS = 0.8
STANDARD DEVIATION IN MICRONS = 0.3 COEFFICIENT OF VARIATION =0.539 SKEWNESS = 9.142 KURTOSIS =136.965

RADIUS IN MICRONS =	0.5	1.5	2.5	3.5	4.5	5.5	6.5	7.5	8.5	9.5
MEASURED NUMBER OF DROPS =	125.0	146.0	66.0	15.0	9.0	0.0	1.0	0.0	0.0	1.0
CORRECTED NUMBER OF DROPS =	******	339.5	92.8	18.4	10.3	0.0	1.1	0.0	0.0	1.0
NUMBER OF DROPS PER CC =	******	1.0454	0.2858	0.0568	0.0319	0.0	0.0033	0.0	0.0	0.0032
LWC(MGRAMS/CUBIC METER) =	0.0202	0.0148	0.0187	0.0102	0.0122	0.0	0.0038	0.0	0.0	0.0115
PERCENTAGE OF DROPS =	96.4	2.6	0.7	0.1	0.1	0.0	0.0	0.0	0.0	0.0
PERCENTAGE OF LWC =	22.1	16.2	20.5	11.2	13.3	0.0	4.2	0.0	0.0	12.6

TOTAL NUMBER OF DROPS PER CC = 39.921 LWC IN GRAMS PER CUBIC METER =0.000091
EXTINCTION COEFFICIENT PER METER =0.0000976 VISIBILITY IN METERS = 40082.

ANALYSIS OF MEASURED DROP SIZE DISTRIBUTION

DATE = 18M\78 RUN NUMBER 0 TIME = 22:15 SLIDE NUMBER 0

ALTITUDE = 0. METERS

TEMPERATURE = 10.0C PRESSURE = 1000.0MB AIR VELOCITY = 49.2M/SEC SLIDE WIDTH = 4.6MM

SLIDE AREA ANALYZED = 0.0061SQUARE CM SLIDE EXPOSURE TIME = 8.000SEC

TOTAL NUMBER OF DROPS (MEASURED) = 317.0
TOTAL NUMBER OF DROPS (CORRECTED) =******

MEAN RADIUS IN MICRONS = 0.5 MEAN SQUARE RADIUS IN MICRONS = 0.6 MEAN VOLUME RADIUS IN MICRONS = 0.7
STANDARD DEVIATION IN MICRONS = 0.2 COEFFICIENT OF VARIATION =0.443 SKEWNESS = 10.765 KURTOSIS =182.199

RADIUS IN MICRONS =	0.5	1.5	2.5	3.5	4.5	5.5	6.5	7.5	8.5
MEASURED NUMBER OF DROPS =	144.0	118.0	31.0	18.0	5.0	0.0	0.0	0.0	1.0
CORRECTED NUMBER OF DROPS =	******	297.7	44.7	22.5	5.8	0.0	0.0	0.0	1.1
NUMBER OF DROPS PER CC =	******	1.2401	0.1863	0.0937	0.0242	0.0	0.0	0.0	0.0044
LWC(MGRAMS/CUBIC METER) =	0.0314	0.0175	0.0122	0.0168	0.0092	0.0	0.0	0.0	0.0113
PERCENTAGE OF DROPS =	97.5	2.0	0.3	0.2	0.0	0.0	0.0	0.0	0.0
PERCENTAGE OF LWC =	31.9	17.8	12.4	17.1	9.4	0.0	0.0	0.0	11.5

TOTAL NUMBER OF DROPS PER CC = 61.525 LWC IN GRAMS PER CUBIC METER =0.000099
EXTINCTION COEFFICIENT PER METER =0.0001314 VISIBILITY IN METERS = 29782.

ANALYSIS OF MEASURED DROP SIZE DISTRIBUTION

DATE = 18MAY78 RUN NUMBER 0 TIME = 22:30 SLIDE NUMBER 0

ALTITUDE = 0. METERS

TEMPERATURE = 10.0C PRESSURE = 1000.0MB AIR VELOCITY = 52.5M/SEC SLIDE WIDTH = 4.8MM

SLIDE AREA ANALYZED = 0.0017SQUARE CM SLIDE EXPOSURE TIME = 60.000SEC

TOTAL NUMBER OF DROPS (MEASURED) = 280.0
TOTAL NUMBER OF DROPS (CORRECTED) =7320.9

MEAN RADIUS IN MICRONS = 0.6 MEAN SQUARE RADIUS IN MICRONS = 0.7 MEAN VOLUME RADIUS IN MICRONS = 0.9
STANDARD DEVIATION IN MICRONS = 0.4 COEFFICIENT OF VARIATION =0.644 SKEWNESS = 5.730 KURTOSIS = 42.210

RADIUS IN MICRONS =	0.5	1.5	2.5	3.5	4.5	5.5
MEASURED NUMBER OF DROPS =	69.0	118.0	57.0	32.0	2.0	2.0
CORRECTED NUMBER OF DROPS =	6900.0	294.4	82.1	40.0	2.3	2.2
NUMBER OF DROPS PER CC =	******	0.5497	0.1533	0.0746	0.0043	0.0042
LWC(MGRAMS/CUBIC METER) =	0.0067	0.0078	0.0100	0.0134	0.0017	0.0029
PERCENTAGE OF DROPS =	94.3	4.0	1.1	0.5	0.0	0.0
PERCENTAGE OF LWC =	15.9	18.3	23.6	31.5	3.9	6.8

TOTAL NUMBER OF DROPS PER CC = 13.671 LWC IN GRAMS PER CUBIC METER =0.000043
EXTINCTION COEFFICIENT PER METER =0.0000411 VISIBILITY IN METERS = 95141.

APPENDIX D

WIND DATA

DATE 5 8 1978

TIME(LDT)	SPEED(M/SEC)	DIRECTION(TRUE)	
838	3.7	71	
1001	4.5	10	
1050	5.4	348	
1210	5.0	331	
1300	6.1	329	
1400	5.7	330	
1500	5.4	334	
1600	5.4	334	
1700	5.7	330	
1810	5.4	334	
1900	5.1	338	
2000	5.4	334	
2100	5.6	324	
2200	4.6	336	
2315	5.4	325	SHIP STOPPED

DATE 5 9 1978

TIME(LDT)	SPEED(M/SEC)	DIRECTION(TRUE)	
15	5.5	343	
100	6.2	331	
200	6.1	326	
300	5.5	343	
400	4.9	326	
500	6.0	315	
600	6.8	318	
700	6.1	312	
800	6.3	328	
900	6.1	322	
1000	5.2	341	
1100	5.4	322	
1110	4.0	315	SHIP STOPPED
1300	5.4	310	SHIP STOPPED
1400	4.8	313	
1500	6.3	317	
1600	5.9	308	
1700	5.4	312	
1830	5.1	320	
2030	6.0	339	
2130	7.3	326	
2230	7.1	335	

DATE 5 10 1978

TIME(LDT)	SPEED(M/SEC)	DIRECTION(TRUE)	
0	8.8	310	SHIP STOPPED
30	8.3	330	SHIP STOPPED
230	8.1	344	
345	8.1	344	
430	7.9	331	
530	7.6	327	
630	6.5	335	
730	5.6	345	
800	7.6	334	
900	6.4	335	SHIP STOPPED
1030	7.4	338	
1130	7.4	338	
1230	6.7	324	
1330	8.8	320	
1415	10.2	335	SHIP STOPPED
1530	9.1	328	
1645	10.7	310	SHIP STOPPED
1800	11.7	310	SHIP STOPPED
1930	11.3	286	
2030	7.2	304	
2114	10.7	325	SHIP STOPPED
2230	6.7	300	
2330	11.2	313	

DATE 5 11 1978

TIME(LDT)	SPEED(M/SEC)	DIRECTION(TRUE)	
30	10.5	314	
230	9.3	315	SHIP STOPPED
430	10.2	310	SHIP STOPPED
730	8.3	315	SHIP STOPPED
830	7.0	320	
945	6.4	314	
1030	6.0	311	
1130	2.5	331	
1230	4.5	310	SHIP STOPPED
1300	4.4	302	
1330	4.9	291	
1400	4.3	280	
1445	3.5	278	
1520	3.7	304	
1545	3.2	304	
1630	6.3	301	
1735	7.8	10	SHIP STOPPED
1830	7.8	330	SHIP STOPPED
1845	7.8	310	SHIP STOPPED
2000	5.8	316	
2215	8.8	325	SHIP STOPPED

DATE 5 12 1978

TIME(LDT)	SPEED(M/SEC)	DIRECTION(TRUE)
300	2.2	308
400	1.7	296
500	0.5	246
600	1.2	131
700	1.5	124
800	7.2	277
900	4.5	252
1000	0.3	122
1100	4.3	355
1200	2.2	11
1300	2.6	293
1400	4.8	263
1500	4.4	263
1600	6.6	317
1700	3.5	295
1745	0.5	343
1900	1.3	290
2000	2.1	263
2100	3.3	221
2200	2.3	230
2300	0.4	115

DATE 5 13 1978

TIME(LDT)	SPEED(M/SEC)	DIRECTION(TRUE)	
0	3.0	236	
100	4.5	203	
200	3.8	210	
300	2.2	195	
400	1.7	202	
500	2.2	216	
600	0.8	238	
700	0.8	270	
810	0.3	45	
900	0.4	45	
1000	1.1	134	
1100	2.6	105	SHIP STOPPED
1200	1.6	338	SHIP STOPPED
1218	1.6	340	SHIP STOPPED
1400	5.0	160	SHIP STOPPED
1443	2.1	327	SHIP STOPPED
1500	1.6	330	SHIP STOPPED
1600	1.6	305	SHIP STOPPED
1700	1.6	5	SHIP STOPPED
1800	2.1	330	SHIP STOPPED
1900	1.3	280	
1930	2.1	218	SHIP STOPPED
2100	3.0	205	SHIP STOPPED
2300	2.6	205	SHIP STOPPED

DATE 5 14 1978

TIME(LDT)	SPEED(M/SEC)	DIRECTION(TRUE)	
0	2.6	230	SHIP STOPPED
100	3.5	200	SHIP STOPPED
200	3.0	215	SHIP STOPPED
300	2.1	215	SHIP STOPPED
400	2.6	187	SHIP STOPPED
500	1.6	175	SHIP STOPPED
600	1.6	195	SHIP STOPPED
825	2.1	90	SHIP STOPPED
930	2.1	80	SHIP STOPPED
1015	2.1	73	SHIP STOPPED
1100	2.1	302	SHIP STOPPED
1200	2.1	302	SHIP STOPPED
1330	2.1	275	SHIP STOPPED
1410	4.0	280	SHIP STOPPED
1500	2.6	280	SHIP STOPPED
1600	2.6	310	SHIP STOPPED
1700	3.5	320	SHIP STOPPED
1800	3.0	335	SHIP STOPPED
1900	5.4	310	SHIP STOPPED
2000	4.5	297	SHIP STOPPED
2100	4.0	290	SHIP STOPPED
2200	6.9	285	SHIP STOPPED

DATE 5 15 1978

TIME(LDT)	SPEED(M/SEC)	DIRECTION(TRUE)	
20	6.4	300	SHIP STOPPED
100	8.3	310	SHIP STOPPED
200	8.3	310	SHIP STOPPED
300	9.3	305	SHIP STOPPED
400	9.3	305	SHIP STOPPED
500	8.3	305	SHIP STOPPED
600	9.7	295	SHIP STOPPED
700	7.3	290	SHIP STOPPED
800	7.3	290	SHIP STOPPED
900	7.8	300	SHIP STOPPED
1000	9.7	295	SHIP STOPPED
1100	7.8	288	SHIP STOPPED
1200	8.8	295	SHIP STOPPED
1400	10.7	300	SHIP STOPPED
1600	11.2	305	SHIP STOPPED
1700	11.7	305	SHIP STOPPED
1800	12.6	300	SHIP STOPPED
1900	12.6	300	SHIP STOPPED

DATE 5 16 1978

TIME(LDT)	SPEED(M/SEC)	DIRECTION(TRUE)	
900	7.8	350	SHIP STOPPED
1300	5.0	310	SHIP STOPPED
1400	5.0	330	SHIP STOPPED
1500	2.6	20	SHIP STOPPED
1600	6.8	329	
1700	9.4	277	

DATE 5 18 1978

TIME(LDT)	SPEED(M/SEC)	DIRECTION(TRUE)	
900	2.6	180	SHIP STOPPED
1000	1.6	240	SHIP STOPPED
1100	1.6	260	SHIP STOPPED
1130	2.1	265	SHIP STOPPED
1200	1.5	347	
1230	1.6	21	
1300	1.2	258	
1400	4.5	235	SHIP STOPPED
1425	4.5	250	SHIP STOPPED
1500	2.8	280	
1600	2.5	236	
1700	4.3	250	
1800	6.9	255	SHIP STOPPED
1820	5.0	260	SHIP STOPPED
1830	4.5	255	SHIP STOPPED
1837	3.8	260	
1917	4.5	255	SHIP STOPPED
1930	4.5	260	SHIP STOPPED
1945	4.5	260	SHIP STOPPED
2000	3.0	265	SHIP STOPPED
2030	3.0	290	SHIP STOPPED
2040	3.0	300	SHIP STOPPED
2050	3.0	310	SHIP STOPPED
2130	4.0	305	SHIP STOPPED
2205	5.4	300	SHIP STOPPED
2230	5.0	303	SHIP STOPPED
2300	4.3	323	

DATE 5 19 1978

TIME(LDT)	SPEED(M/SEC)	DIRECTION(TRUE)	
0	5.0	316	
100	4.7	319	
140	5.4	300	SHIP STOPPED
200	4.4	292	
300	4.7	267	
400	7.1	280	
500	6.7	260	
600	5.5	288	
700	5.4	270	SHIP STOPPED
800	5.4	285	SHIP STOPPED
900	5.4	280	SHIP STOPPED
1010	3.0	290	SHIP STOPPED
1100	4.5	285	SHIP STOPPED
1200	5.0	305	SHIP STOPPED
1300	4.5	290	SHIP STOPPED
1400	5.0	280	SHIP STOPPED
1500	4.5	300	SHIP STOPPED
1600	5.0	295	SHIP STOPPED
1700	5.9	290	SHIP STOPPED
1800	5.9	290	SHIP STOPPED
1900	5.4	285	SHIP STOPPED
2000	6.9	280	SHIP STOPPED
2100	5.9	290	SHIP STOPPED
2200	6.9	285	SHIP STOPPED
2300	5.9	295	SHIP STOPPED

DATE 5 20 1978

TIME(LDT)	SPEED(M/SEC)	DIRECTION(TRUE)	
0	5.9	285	SHIP STOPPED
100	4.5	300	SHIP STOPPED
200	5.0	275	SHIP STOPPED
300	5.4	285	SHIP STOPPED
400	5.9	295	SHIP STOPPED
500	5.9	310	SHIP STOPPED
600	5.9	285	SHIP STOPPED
700	5.9	290	SHIP STOPPED
800	5.4	300	SHIP STOPPED
900	7.8	318	SHIP STOPPED
1000	6.9	320	SHIP STOPPED
1100	3.5	321	
1200	5.0	326	
1300	4.8	287	
1350	3.5	275	
1400	5.4	304	
1500	7.4	298	
1600	6.4	293	
1700	6.9	301	
1800	7.3	294	
1900	8.0	305	
2000	7.1	300	
2100	8.0	305	
2200	6.6	311	
2300	6.6	295	

DATE 5 21 1978

TIME(LDT)	SPEED(M/SEC)	DIRECTION(TRUE)
0	7.1	311
100	6.6	317
200	5.6	300
300	6.1	300
400	6.1	295
500	6.1	312
600	6.1	311
700	5.2	311
800	7.4	312
900	7.0	319
1000	4.9	332
1100	4.9	308
1200	4.7	311
1300	6.1	294
1410	6.1	340
1430	4.1	329
1500	2.7	292
1520	4.2	283
1600	5.3	273
1610	4.9	307
1700	6.3	296
1730	6.4	301
1800	6.2	313
2000	7.4	287
2100	8.2	292
2200	7.3	300
2300	6.8	313

DATE 5 22 1978

TIME(LDT)	SPEED(M/SEC)	DIRECTION(TRUE)
0	6.8	312
100	7.8	322
200	7.8	316
300	8.3	327
400	6.9	320
500	7.6	328
600	6.6	317
700	8.3	321
800	7.3	321
900	7.4	332
1000	6.4	337
1100	8.8	331
1200	7.7	335
1230	7.7	328
1300	7.3	325
1330	7.5	326

DATE 5 22 1978 CONT'D

1400	6.1	315
1430	6.8	305
1500	7.4	329
1530	8.0	299
1600	8.8	303
1620	9.4	295
1700	8.3	301
1800	8.0	317
1830	9.1	302
1845	10.1	313
1900	9.6	313
2030	6.4	312
2055	6.9	296
2300	2.5	292

DATE 5 23 1978

TIME(LDT)	SPEED(M/SEC)	DIRECTION(TRUE)
0	6.0	323
100	4.4	262
200	4.2	356
300	6.1	300
400	3.9	348
500	2.4	344
600	7.7	330
630	6.5	323
700	1.6	295
800	10.8	312
900	12.2	301
1000	8.0	287
1045	7.6	273
1110	9.0	270
1200	9.8	264
1500	8.4	266
1600	8.6	257
1700	10.7	294
1800	10.9	292
1900	8.5	308
2000	5.6	308
2100	12.4	325

DATE 24 0 0

TIME(LDT)	SPEED(M/SEC)	DIRECTION(TRUE)
0	3.5	304

APPENDIX E

AIR AND SEA SURFACE TEMPERATURE

DATE: 5 8 1978

TIME (PDT)	3.0M (C)	8.5M (C)	20.5M (C)	SEASURF (C)
813	14.6	14.5	14.6	13.7
1001	11.8	12.1	12.2	10.9
1049	12.0	12.0	12.1	11.9
1200	13.5	13.5	13.5	13.3
1300	13.8	13.8	13.7	13.9
1400	14.1	14.0	13.9	14.6
1500	14.1	14.1	13.9	14.6
1600	14.3	14.2	14.1	14.7
1700	14.4	14.2	13.9	14.7
1800	14.3	14.0	13.9	14.6
1900	13.7	13.5	13.5	14.5
2000	13.6	13.5	13.2	14.6
2100	13.2	13.0	12.9	14.6
2200	12.9	12.7	12.6	14.5
2300	12.5	12.3	12.4	14.5

DATE: 5 9 1978

TIME (PDT)	3.0M (C)	8.5M (C)	20.5M (C)	SEASURF (C)
0	13.0	12.9	12.8	14.4
100	13.0	12.7	12.6	14.5
200	13.1	12.9	12.7	14.9
300	12.9	12.7	12.6	14.7
400	13.1	12.9	12.7	14.5
500	12.8	12.5	12.4	14.7
600	13.0	12.6	12.4	14.2
700	12.9	12.6	12.5	13.7
800	13.4	12.9	12.7	13.7
900	13.5	13.1	12.8	14.3
1000	13.8	13.0	12.9	14.6
1100	14.3	13.1	12.9	14.9
1105	13.6	13.2	13.2	14.9
1300	13.6	13.3	13.1	14.9
1400	13.8	13.5	13.3	14.9
1500	13.5	13.5	13.3	14.1
1600	13.7	13.5	13.2	14.2
1700	13.9	13.3	13.2	13.8
1830	12.6	12.5	12.5	12.5
2030	12.1	12.0	12.1	12.0
2130	12.2	12.0	11.9	12.9
2230	12.0	11.6	11.5	13.4

DATE: 5 10 1978

TIME (PDT)	3.0M (C)	8.5M (C)	20.5M (C)	SEASURF (C)
0	11.4	11.4	11.2	12.4
30	11.4	11.4	11.2	12.2
230	11.8	11.8	11.7	13.2
345	11.6	11.6	11.4	12.9
430	11.8	11.8	11.7	12.6
530	12.2	12.1	11.9	14.3
630	12.4	12.3	12.0	14.1
730	12.7	12.5	12.4	14.6
830	13.1	12.8	12.6	14.6
900	13.1	12.9	12.8	14.2
1030	13.0	12.5	12.4	13.3
1130	12.8	12.2	12.0	14.4
1230	13.0	12.6	12.4	14.2
1330	12.9	12.6	12.4	12.8
1415	12.9	12.7	12.6	12.9
1530	13.0	12.8	12.6	13.6
1645	12.6	12.6	12.5	13.6
1800	12.6	12.9	12.7	13.7
1925	(N/A)	12.6	12.5	13.2
2030	13.9	13.9	13.8	15.6
2115	12.7	12.7	12.6	13.6
2230	13.8	13.8	13.6	15.0
2330	12.5	12.4	12.5	13.1

DATE: 5 11 1978

TIME (PDT)	3.0M (C)	8.5M (C)	20.5M (C)	SEASURF (C)
30	12.6	12.6	12.4	12.9
230	12.4	12.3	12.3	13.3
430	12.4	12.4	12.3	13.5
730	12.8	12.6	12.5	12.8
830	13.1	12.9	12.8	13.4
945	12.5	13.0	13.0	(N/A)
1030	14.0	13.4	13.2	13.8
1130	13.9	13.8	13.7	13.8
1300	14.5	14.1	14.0	14.3
1330	15.2	14.6	14.4	14.8
1445	15.1	14.8	14.7	16.2
1545	14.5	14.3	14.2	14.2
1630	14.6	14.1	13.9	16.7
1830	14.7	14.6	14.3	16.0
2000	(N/A)	14.2	14.2	14.0
2200	14.7	14.9	14.8	14.6

DATE: 5 12 1978

TIME (PDT)	3.0M (C)	8.5M (C)	20.5M (C)	SEASURF (C)
300	15.3	15.3	15.3	15.5
400	16.0	16.0	16.0	17.0
500	16.1	16.2	16.1	17.5
600	16.4	16.5	16.4	17.9
700	17.1	16.7	16.7	16.8
800	17.1	17.0	16.9	17.9
900	17.2	17.0	16.9	17.6
1000	17.3	17.1	16.9	18.2
1100	17.9	17.5	17.5	17.8
1200	18.7	18.0	18.0	17.9
1300	19.3	18.9	18.6	18.6
1400	18.9	18.8	18.6	18.2
1500	19.1	18.9	18.9	18.6
1745	19.3	19.1	19.0	18.4
1900	18.9	18.8	18.9	18.0
2000	18.6	18.6	18.5	18.9
2100	18.7	18.7	18.8	18.5
2200	18.3	18.7	19.0	16.4
2300	17.9	18.4	18.5	17.6

DATE: 5 13 1978

TIME (PDT)	3.0M (C)	8.5M (C)	20.5M (C)	SEASURF (C)
0	18.1	18.4	19.6	17.9
100	17.4	17.4	17.3	17.3
200	17.4	17.4	17.2	18.0
300	17.0	16.8	16.8	17.7
400	16.5	16.4	16.4	17.6
500	14.5	14.7	14.9	14.0
600	13.9	14.1	15.0	13.6
700	14.6	14.6	14.7	14.3
800	14.6	14.6	14.7	14.3
900	15.6	15.1	15.0	14.5
1100	18.5	19.4	20.8	(N/A)
1400	15.4	16.3	17.1	(N/A)
1500	21.3	21.8	21.6	(N/A)
1600	19.8	20.0	21.6	15.7
1700	18.5	19.5	20.6	14.8
1800	16.7	16.9	17.0	14.4
1900	16.7	16.7	16.9	14.7
1934	16.3	16.4	16.4	14.2
2100	15.8	16.2	16.2	14.9

DATE: 5 14 1978

TIME (PDT)	3.0M (C)	8.5M (C)	20.5M (C)	SEASURF (C)
0	15.0	15.3	15.4	14.7
200	14.7	14.7	14.8	14.6
300	14.4	14.4	14.5	14.4
400	14.3	14.3	14.4	14.2
500	14.3	14.4	14.5	14.1
600	14.3	14.3	14.4	14.2
651	14.5	14.5	14.6	14.4
830	13.7	13.6	13.7	14.3
930	14.7	14.2	14.2	14.3
1015	15.1	14.7	14.4	14.2
1100	15.0	15.0	15.1	14.7
1330	15.4	15.1	15.1	15.0
1410	15.1	15.0	14.9	14.9
1500	14.9	14.5	14.5	14.6
1600	16.1	15.9	15.9	15.0
1700	16.2	16.2	16.3	14.7
1800	16.5	16.3	16.3	14.7
1900	15.6	15.4	15.3	14.5
2000	14.9	14.9	15.0	14.4
2100	15.0	15.1	15.1	14.1
2200	15.0	15.0	15.0	14.1

DATE: 5 15 1978

TIME (PDT)	3.0M (C)	8.5M (C)	20.5M (C)	SEASURF (C)
20	14.9	14.9	15.0	14.0
200	14.2	14.4	14.3	13.9
300	14.3	14.3	14.4	13.9
400	14.1	14.2	14.2	14.0
500	14.3	14.3	14.4	13.7
600	14.3	14.1	14.2	13.7
700	15.2	15.0	15.1	14.5
800	15.1	14.8	14.8	14.4
900	15.0	14.9	14.9	14.5
1000	14.9	14.8	14.9	14.4
1100	14.9	14.8	14.8	14.3
1200	15.0	15.1	14.9	14.7
1400	15.1	15.1	15.0	15.4
1445	15.2	15.2	15.1	15.5
1600	15.4	15.3	15.2	15.4
1700	15.2	15.1	15.1	15.5
1800	(N/A)	14.8	14.7	15.5
1900	14.7	14.7	14.6	15.5

DATE: 5 16 1978

TIME (PDT)	3.0M (C)	8.5M (C)	20.5M (C)	SEASURF (C)
1100	17.8	14.8	14.4	14.7
1300	18.2	18.1	18.4	15.2
1400	19.3	19.3	19.4	15.2
1500	19.1	18.3	19.4	15.2
1600	17.9	17.5	17.7	15.2
1700	17.0	16.3	16.4	15.0

DATE: 5 18 1978

TIME (PDT)	3.0M (C)	8.5M (C)	20.5M (C)	SEASURF (C)
900	18.6	17.6	17.7	(N/A)
1000	19.5	18.9	19.2	(N/A)
1100	23.3	21.9	22.0	(N/A)
1200	19.1	18.7	20.8	17.5
1300	16.6	15.7	15.8	15.0
1400	20.5	19.7	19.7	(N/A)
1500	20.5	19.1	19.2	18.6
1600	19.5	18.1	18.2	18.2
1700	18.5	16.7	16.6	17.3
1800	18.5	16.1	15.9	15.7
1906	16.4	15.7	15.6	16.3
1915	17.2	15.7	15.6	16.1
1925	16.9	15.6	15.5	16.1
1935	16.3	15.5	15.4	15.4
1945	15.7	15.7	15.5	15.2
2000	15.4	15.4	15.3	15.3
2010	15.3	15.4	15.2	15.3
2030	15.3	15.2	15.2	15.2
2040	15.1	15.1	15.1	15.1
2130	15.1	15.1	15.2	15.0
2150	15.1	15.2	15.1	14.9
2200	14.9	15.0	15.1	14.9
2230	15.1	15.0	15.1	15.4

DATE: 5 19 1978

TIME (PDT)	3.0M (C)	8.5M (C)	20.5M (C)	SEASURF (C)
0	14.3	14.5	14.4	15.0
100	14.3	14.5	14.4	14.8
200	12.7	12.6	12.6	15.1
300	12.5	12.4	12.4	14.4
400	12.5	12.2	12.2	14.4
500	12.7	12.2	12.1	14.6
600	12.5	12.1	12.0	14.8
700	12.2	12.0	12.0	14.1
800	12.1	11.8	11.7	15.0
900	12.4	12.1	12.0	15.1
1015	13.0	12.3	12.1	14.9
1100	13.8	12.8	12.6	15.0
1200	14.2	13.0	12.9	15.0
1300	14.3	13.0	12.9	15.2
1400	14.0	13.0	12.9	15.4
1500	14.1	13.2	13.1	15.4
1600	14.0	13.2	13.2	15.4
1700	13.3	12.9	12.8	15.2
1800	13.3	13.1	12.9	14.2
1900	12.8	12.5	12.3	15.2
2000	12.5	12.3	12.1	15.1
2100	12.6	12.4	12.3	15.2
2200	12.5	12.3	12.1	15.1
2300	12.4	12.3	12.2	15.1

DATE: 5 20 1978

TIME (PDT)	3.0M (C)	8.5M (C)	20.5M (C)	SEASURF (C)
0	12.5	12.2	12.1	15.1
100	12.5	12.4	12.1	15.1
200	12.3	12.0	11.9	15.1
300	12.3	12.1	12.0	15.0
400	12.4	12.3	12.2	15.0
500	12.3	12.2	12.1	14.9
600	12.3	12.2	12.1	14.4
700	12.5	12.3	11.4	14.6
800	12.7	12.5	12.3	14.6
900	12.8	12.5	12.3	15.3
1000	12.8	12.7	12.6	15.3
1100	12.4	12.6	12.5	14.4
1200	12.8	12.6	12.6	14.2
1300	12.7	12.8	12.7	13.4
1400	13.0	13.0	12.9	14.0
1500	14.3	14.1	14.0	15.2
1600	13.7	13.1	13.0	14.2
1700	13.5	13.1	13.1	14.2
1800	13.5	13.1	13.0	14.4
1900	13.2	13.1	13.0	14.1
2000	13.1	13.0	13.0	13.9
2100	12.7	12.9	12.8	13.2
2200	12.1	12.9	12.8	12.9
2300	12.4	12.7	12.6	13.1

DATE: 5 21 1978

TIME (PDT)	3.0M (C)	8.5M (C)	20.5M (C)	SEASURF (C)
0	12.2	12.6	12.4	12.8
100	12.6	12.8	12.7	13.0
200	12.5	12.6	12.6	12.9
300	(N/A)	12.6	12.6	12.9
400	12.3	12.4	12.4	13.0
500	12.5	12.9	12.8	13.0
600	(N/A)	12.9	12.9	13.0
700	12.5	13.0	13.0	13.0
800	13.0	13.5	12.9	12.9
900	13.4	13.1	12.8	13.3
1000	13.8	13.0	12.9	13.5
1003	13.2	12.8	12.8	13.7
1100	13.5	13.1	12.9	12.8
1200	13.8	13.4	13.3	14.2
1405	15.7	15.2	15.2	16.2
1500	14.2	13.7	13.6	14.2
1600	14.1	13.8	13.8	14.0
1700	14.4	14.1	13.9	14.3
1730	14.5	14.1	14.0	14.2
2000	14.8	14.5	14.4	16.5
2100	14.1	14.5	14.3	15.0
2200	13.5	13.9	13.8	14.0
2300	13.3	13.7	13.7	13.3

DATE: 5 22 1978

TIME (PDT)	3.0M (C)	8.5M (C)	20.5M (C)	SEASURF (C)
0	13.2	13.6	13.5	13.5
100	13.2	13.4	13.3	13.6
200	(N/A)	13.1	13.1	13.0
300	(N/A)	12.9	12.9	12.9
400	(N/A)	13.1	13.0	11.7
500	(N/A)	13.1	13.0	11.8
600	(N/A)	13.1	13.0	12.0
700	11.7	13.0	12.9	12.1
800	11.5	13.0	12.9	12.0
900	12.7	13.0	12.8	12.0
1000	12.7	12.9	12.8	12.2
1100	12.7	13.1	13.0	12.6
1130	13.1	13.1	13.0	12.3
1210	(N/A)	12.7	12.6	12.6
1300	(N/A)	12.6	12.6	12.4
1400	(N/A)	12.6	12.6	12.1
1500	(N/A)	12.6	12.5	13.1
1600	(N/A)	12.7	12.6	13.0
1700	(N/A)	13.3	13.2	12.7
1800	(N/A)	14.1	14.0	14.2
1830	14.7	14.3	14.3	14.0
2030	15.0	15.3	15.4	14.6
2300	14.0	14.2	14.1	15.1

DATE: 5 23 1978

TIME (PDT)	3.0M (C)	8.5M (C)	20.5M (C)	SEASURF (C)
0	13.2	13.3	13.3	14.8
100	13.1	13.2	13.1	14.5
200	(N/A)	12.1	12.0	14.5
300	12.3	12.5	12.4	14.4
400	12.3	12.3	12.4	14.4
500	12.2	12.5	12.4	14.3
600	12.7	12.5	12.5	14.3
700	13.8	11.9	12.0	14.3
900	16.8	13.3	12.9	12.7
800	13.3	12.2	12.1	14.3
1000	16.6	14.4	13.6	11.2
1035	13.3	13.9	13.8	12.6
1100	13.4	14.3	14.3	12.8
1200	14.9	14.4	14.3	14.7
1400	14.9	15.0	15.0	13.9
1500	15.9	16.1	16.2	13.6
1600	(N/A)	16.2	16.3	13.4
1700	(N/A)	14.7	15.8	13.0
1800	(N/A)	14.8	14.9	12.7
1900	(N/A)	13.6	13.6	12.6
2000	(N/A)	12.6	12.6	12.4
2100	12.3	11.8	11.9	11.2

APPENDIX F

HUMIDITY AND REFRACTIVE INDEX

DATE: 5 8 1978

TIME (PDT)	TEMP (C)	T WET (C)	RH %	DWPT (C)	MIX RATIO (G/KG)	R INDEX (UNITS)
831	14.7	12.4	77.0	10.7	8.1	333.9
1001	12.4	11.4	88.3	10.5	8.0	336.3
1049	12.5	11.3	87.1	10.4	7.9	335.7
1200	13.9	12.7	87.7	11.9	8.7	339.7
1300	14.1	13.0	87.8	12.2	8.9	340.5
1400	14.3	13.1	87.8	12.3	8.9	340.8
1500	14.5	13.3	86.8	12.4	9.0	340.9
1600	16.3	14.2	79.6	12.8	9.2	340.2
1700	16.5	14.1	77.1	12.5	9.1	338.6
1800	14.6	13.4	87.9	12.6	9.1	341.9
1900	14.0	13.0	89.4	12.3	8.9	341.3
2000	13.4	12.4	89.3	11.7	8.6	339.6
2100	13.3	12.1	88.0	11.3	8.4	338.3
2200	13.0	12.4	93.3	12.0	8.8	341.4
2300	12.7	11.4	86.0	10.4	7.9	335.5

DATE: 5 9 1978

TIME (PDT)	TEMP (C)	T WET (C)	RH %	DWPT (C)	MIX RATIO (G/KG)	R INDEX (UNITS)
0	13.1	11.9	86.8	10.9	8.2	337.0
100	13.0	11.8	86.2	10.8	8.1	336.4
200	13.1	11.9	86.8	10.9	8.2	337.0
300	12.9	11.8	87.3	10.9	8.1	336.9
400	13.0	12.0	88.5	11.2	8.3	338.0
500	12.8	11.7	88.4	10.9	8.2	337.3
600	12.8	11.6	87.2	10.7	8.0	336.4
700	12.6	11.6	89.0	10.9	8.1	337.4
800	13.4	12.0	84.6	10.9	8.1	336.3
900	13.5	11.8	81.2	10.4	7.9	334.2
1000	13.8	12.3	83.7	11.1	8.3	336.6
1100	14.0	12.5	84.3	11.4	8.5	337.7
1105	13.6	12.1	84.1	11.0	8.2	336.4
1300	13.9	12.3	83.1	11.1	8.3	336.5
1400	14.1	12.4	82.1	11.1	8.3	336.3
1500	14.3	12.4	81.1	11.1	8.2	335.8
1600	14.1	12.3	81.0	10.9	8.2	335.5
1700	13.8	12.3	84.2	11.2	8.3	337.0
1800	12.8	11.4	85.5	10.4	7.9	335.2
2030	12.4	11.1	85.9	10.1	7.7	334.6
2130	12.2	11.2	88.8	10.4	7.9	336.1
2230	12.0	11.1	89.4	10.3	7.9	336.1

DATE: 5 10 1978

TIME (PDT)	TEMP (C)	T WET (C)	RH %	DWPT (C)	MIX RATIO (G/KG)	R INDEX (UNITS)
0	11.6	10.4	86.8	9.5	7.4	333.3
30	11.5	10.3	85.5	9.2	7.3	332.4
230	12.0	10.8	86.3	9.8	7.6	334.1
345	11.8	10.9	89.3	10.1	7.7	335.5
430	12.1	11.0	88.2	10.2	7.8	335.4
530	12.4	10.9	84.1	9.8	7.5	333.4
630	12.5	11.7	91.4	11.1	8.3	338.5
730	12.8	11.9	90.2	11.2	8.3	338.5
830	13.3	12.0	86.9	11.1	8.3	337.5
900	13.5	12.0	83.5	10.8	8.1	335.8
1030	13.5	12.1	84.7	11.0	8.2	336.6
1130	13.4	12.1	85.8	11.1	8.3	337.1
1230	13.7	12.0	81.9	10.7	8.0	335.0
1330	13.6	11.7	79.6	10.2	7.8	332.3
1430	13.6	11.8	80.2	10.3	7.8	332.7
1530	13.7	11.9	80.8	10.5	7.9	333.2
1645	13.7	11.8	79.6	10.2	7.8	332.4
1800	13.9	11.9	78.7	10.3	7.8	332.3
1925	11.6	11.3	96.2	11.1	8.2	338.5
2030	13.8	11.6	76.9	9.8	7.6	330.7
2115	12.9	11.0	79.7	9.5	7.4	330.7
2230	13.9	11.6	76.4	9.8	7.6	330.5
2330	12.8	11.2	83.1	10.0	7.7	332.6

DATE: 5 11 1978

TIME (PDT)	TEMP (C)	T WET (C)	RH %	DWPT (C)	MIX RATIO (G/KG)	R INDEX (UNITS)
30	12.6	11.4	86.0	10.4	7.9	334.3
230	12.6	11.0	82.4	9.7	7.5	331.8
430	12.6	11.3	86.0	10.3	7.8	334.2
730	13.1	11.8	85.6	10.7	8.1	335.2
830	13.7	12.3	85.3	11.3	8.4	336.5
945	14.0	12.3	82.1	11.0	8.2	335.0
1030	14.3	12.8	84.4	11.7	8.6	337.3
1130	14.6	12.7	80.2	11.3	8.4	335.2
1230	14.8	13.0	81.4	11.7	8.6	336.5
1300	14.5	13.4	89.0	12.7	9.2	341.4
1330	15.5	13.7	82.3	12.5	9.1	339.0
1400	16.3	14.2	80.1	12.8	9.3	339.4
1445	15.9	14.1	82.0	12.9	9.3	340.0
1520	15.8	14.5	86.7	13.6	9.8	343.6
1545	15.5	13.6	81.3	12.3	9.0	338.3
1630	15.0	13.1	80.9	11.7	8.6	336.6
1830	15.4	13.5	81.7	12.3	8.9	338.2
2000	14.5	13.1	85.1	12.1	8.8	338.6
2200	14.9	13.2	82.5	12.0	8.8	337.7

DATE: 5 12 1978

TIME (PDT)	TEMP (C)	T WET (C)	RH %	DWPT (C)	MIX RATIO (G/KG)	R INDEX (UNITS)
300	15.4	14.2	87.7	13.4	9.6	343.1
400	16.8	14.7	79.9	13.3	9.6	340.8
500	16.4	15.0	86.4	14.2	10.1	345.2
600	16.6	15.8	91.3	15.2	10.9	350.1
700	17.3	15.8	85.7	14.8	10.6	347.3
800	17.8	15.8	81.4	14.5	10.4	345.1
900	18.0	16.1	82.5	15.0	10.7	347.0
1000	17.9	16.0	82.9	14.9	10.7	346.8
1100	18.0	16.1	82.5	15.0	10.7	347.0
1200	18.7	16.8	82.3	15.6	11.2	349.1
1300	19.6	17.0	77.1	15.5	11.0	347.0
1400	19.5	17.5	82.7	16.5	11.8	352.2
1500	19.6	17.4	80.8	16.2	11.6	350.7
1745	19.7	18.0	84.7	17.0	12.2	355.0
1900	18.9	17.8	90.3	17.2	12.4	357.3
2000	18.6	17.8	92.8	17.4	12.5	358.6
2100	18.7	17.9	92.3	17.4	12.5	358.6
2200	18.5	17.3	88.7	16.6	11.9	354.3
2300	18.7	16.6	81.4	15.4	11.0	348.2

DATE: 5 13 1978

TIME (PDT)	TEMP (C)	T WET (C)	RH %	DWPT (C)	MIX RATIO (G/KG)	R INDEX (UNITS)
0	18.3	17.0	88.1	16.3	11.7	353.2
100	17.5	16.9	93.6	16.5	11.8	355.3
200	17.5	16.4	89.4	15.7	11.2	351.3
300	17.0	15.6	86.7	14.8	10.6	347.4
400	16.8	15.5	87.1	14.7	10.5	347.1
500	14.7	14.1	94.2	13.8	9.9	346.0
600	14.4	14.1	96.5	13.9	9.9	346.8
700	14.7	13.9	91.9	13.4	9.6	344.2
800	14.4	13.8	93.0	13.3	9.6	344.2
900	15.7	14.5	88.3	13.8	9.9	344.5
1100	18.5	15.2	70.3	13.0	9.4	337.2
1218	17.7	16.0	84.4	15.0	10.7	347.6
1400	21.1	15.8	57.1	12.3	9.0	330.7
1443	22.4	15.2	45.9	10.2	7.8	320.7
1500	21.5	16.9	62.8	14.1	10.1	337.8
1600	20.7	16.3	63.7	13.6	9.8	336.6
1700	19.7	16.4	71.7	14.4	10.3	341.9
1800	17.4	16.2	88.9	15.5	11.1	350.5
1900	17.3	15.5	83.2	14.4	10.3	345.3
1934	16.6	15.5	89.1	14.8	10.6	348.1
2100	16.0	15.4	93.3	15.0	10.7	349.7
2300	15.3	14.9	96.0	14.6	10.4	349.2

DATE: 5 14 1978

TIME (PDT)	TEMP (C)	T WET (C)	RH %	DWPT (C)	MIX RATIO (G/KG)	R INDEX (UNITS)
0	15.3	14.8	94.9	14.4	10.3	348.3
100	20.7	14.8	52.2	10.6	8.0	324.3
200	14.9	14.6	97.1	14.4	10.3	348.7
300	14.7	14.1	93.6	13.7	9.8	345.5
400	14.4	14.0	95.3	13.7	9.8	345.9
500	14.6	13.8	91.4	13.3	9.5	343.6
600	14.4	14.1	96.5	13.9	9.9	346.8
651	14.5	14.1	95.9	13.8	9.9	346.5
735	14.5	14.4	98.2	14.3	10.2	348.5
830	14.3	14.0	97.1	13.9	9.9	346.9
930	14.9	14.4	94.3	14.0	10.0	346.7
1015	15.8	14.7	89.4	14.0	10.0	345.6
1100	15.9	14.8	88.4	14.0	10.0	345.3
1200	15.3	14.3	90.4	13.7	9.8	344.8
1330	15.9	14.6	87.3	13.8	9.9	344.4
1410	15.4	14.5	90.4	13.9	9.9	345.3
1500	15.3	14.3	90.4	13.7	9.8	344.8
1600	16.7	15.1	84.5	14.1	10.1	344.4
1700	17.5	15.5	81.7	14.3	10.2	344.5
1800	17.0	15.8	87.7	15.0	10.7	348.3
1900	15.8	14.6	87.8	13.8	9.9	344.4
2000	15.1	14.1	89.8	13.5	9.7	344.0
2100	15.3	14.1	88.7	13.4	9.6	343.5
2200	15.0	14.5	94.8	14.2	10.2	347.5

DATE: 5 15 1978

TIME (PDT)	TEMP (C)	T WET (C)	RH %	DWPT (C)	MIX RATIO (G/KG)	R INDEX (UNITS)
20	14.9	13.7	87.5	12.9	9.3	341.5
100	14.6	13.6	90.2	13.0	9.4	342.6
200	14.5	13.5	89.6	12.8	9.3	341.8
300	14.5	13.4	89.0	12.7	9.2	341.4
400	14.4	13.3	89.0	12.6	9.1	341.0
500	14.4	13.4	89.6	12.7	9.2	341.6
600	14.5	13.5	90.2	12.9	9.3	342.2
700	15.3	13.5	82.7	12.3	9.0	338.7
800	15.4	13.9	85.0	12.9	9.3	341.0
900	15.5	14.1	86.6	13.3	9.5	342.5
1000	15.4	14.1	87.1	13.2	9.5	342.5
1100	15.8	13.9	81.9	12.7	9.2	339.5
1200	15.8	13.9	81.4	12.6	9.2	339.2
1245	15.8	14.1	83.0	12.9	9.3	340.5
1400	15.8	14.1	83.5	13.0	9.4	341.0
1445	16.0	14.1	81.5	12.9	9.3	340.0
1600	16.3	13.0	69.4	10.7	8.0	330.5
1700	16.2	13.0	69.3	10.6	8.0	330.4
1800	15.9	13.0	72.1	10.9	8.2	332.0
1900	15.4	12.3	69.2	9.8	7.6	328.5

DATE: 5 16 1978

TIME (PDT)	TEMP (C)	T WET (C)	RH %	DWPT (C)	MIX RATIO (G/KG)	R INDEX (UNITS)
1300	17.6	13.5	63.4	10.6	8.0	328.4
1400	19.6	12.8	44.7	7.3	6.4	314.6
1500	16.1	14.3	82.6	13.1	9.5	341.0

DATE: 5 18 1978

TIME (PDT)	TEMP (C)	T WET (C)	RH %	DWPT (C)	MIX RATIO (G/KG)	R INDEX (UNITS)
1000	17.8	12.8	55.9	8.9	7.1	322.1
1100	19.5	14.4	57.0	10.7	8.1	326.6
1130	22.3	13.6	36.2	6.6	6.1	309.3
1200	19.3	16.8	77.4	15.3	10.9	346.4
1300	21.9	16.8	59.9	13.7	9.8	335.6
1400	17.6	17.6	100.0	17.6	12.7	362.3
1500	19.6	17.0	77.1	15.5	11.0	347.0
1600	18.3	16.2	80.7	14.9	10.7	346.2
1700	17.1	15.4	83.1	14.3	10.2	344.7
1800	16.6	15.2	86.5	14.3	10.2	345.8
1906	16.3	15.1	88.5	14.4	10.3	346.4
1915	16.2	15.1	89.0	14.4	10.3	346.7
1925	16.2	14.9	87.4	14.1	10.1	345.3
1935	16.0	15.0	90.1	14.4	10.3	347.0
1945	15.8	14.8	90.0	14.1	10.1	346.0
2000	15.5	14.9	93.2	14.4	10.3	347.9
2010	15.4	14.6	92.6	14.2	10.1	346.9
2030	15.3	14.5	92.6	14.1	10.1	346.5
2040	15.3	14.5	92.1	14.0	10.0	346.1
2045	15.2	14.5	92.6	14.0	10.0	346.3
2130	15.1	14.5	93.2	14.0	10.1	346.6
2150	15.3	15.1	98.3	15.0	10.7	351.0
2200	15.2	14.6	93.7	14.2	10.2	347.2
2220	15.3	14.6	93.7	14.3	10.2	347.4
2300	15.3	14.5	92.1	14.0	10.0	346.1
2330	14.5	13.8	92.5	13.3	9.6	344.1

DATE: 5 19 1978

TIME (PDT)	TEMP (C)	T WET (C)	RH %	DWPT (C)	MIX RATIO (G/KG)	R INDEX (UNITS)
0	14.6	14.0	94.2	13.7	9.8	345.6
100	14.2	14.1	99.4	14.1	10.1	348.2
200	12.8	12.5	96.9	12.3	9.0	342.2
300	12.6	12.5	98.1	12.4	9.0	342.5
400	12.6	12.5	98.8	12.4	9.0	342.8
500	12.7	12.4	96.9	12.2	8.9	341.9
600	12.6	12.6	100.0	12.6	9.3	345.9
700	12.4	12.3	98.7	12.2	8.9	342.1
800	12.3	12.0	96.9	11.8	8.7	340.7
900	12.8	12.5	96.9	12.3	8.9	342.0
1015	13.0	12.4	93.3	12.0	8.8	340.3
1100	13.8	13.0	91.1	12.4	9.0	341.0
1200	14.0	13.0	90.0	12.4	9.0	340.7
1300	14.4	13.3	88.4	12.5	9.1	340.8
1400	14.2	13.3	90.1	12.6	9.1	341.4
1500	14.1	13.3	90.6	12.6	9.2	341.6
1600	14.0	13.4	93.5	13.0	9.4	343.4
1700	13.6	13.0	93.4	12.5	9.1	342.0
1800	13.5	13.0	94.6	12.6	9.2	342.5
1900	13.0	12.7	96.3	12.5	9.1	342.4
2000	12.8	12.5	96.3	12.2	8.9	341.8
2100	13.0	12.8	96.9	12.6	9.1	342.9
2130	12.7	12.3	95.7	12.0	8.8	341.0
2200	12.6	12.3	96.9	12.1	8.8	341.5
2300	12.6	12.3	96.9	12.1	8.8	341.5

DATE: 5 20 1978

TIME (PDT)	TEMP (C)	T WET (C)	RH %	DWPT (C)	MIX RATIO (G/KG)	R INDEX (UNITS)
0	12.6	12.3	96.9	12.1	8.8	341.5
100	12.6	12.3	96.3	12.0	8.8	341.1
200	12.4	11.8	93.2	11.4	8.4	338.6
300	12.4	11.8	93.2	11.3	8.4	338.4
400	12.5	11.9	93.2	11.4	8.4	338.7
500	12.7	12.4	96.9	12.2	8.9	341.9
600	12.5	11.9	93.8	11.5	8.5	339.2
700	12.8	12.1	93.3	11.7	8.6	339.5
800	12.9	12.0	90.9	11.4	8.4	338.2
900	12.8	12.0	91.5	11.5	8.5	338.5
930	12.9	12.3	92.7	11.8	8.6	339.6
1000	13.2	12.3	90.4	11.7	8.6	338.8
1030	N/A	N/A	N/A	N/A	N/A	N/A
1100	13.1	12.0	87.4	11.1	8.3	336.6
1130	13.4	12.1	86.9	11.2	8.3	336.8
1200	13.4	12.1	86.3	11.1	8.3	336.4
1230	13.6	12.4	87.6	11.6	8.5	337.8
1300	13.6	12.3	85.8	11.3	8.4	336.6
1400	14.0	12.4	83.2	11.2	8.3	335.8
1500	14.1	12.4	82.1	11.1	8.3	335.3
1600	14.3	12.3	80.0	10.9	8.1	334.0
1700	14.1	12.3	81.0	10.9	8.2	334.5
1800	14.2	12.1	78.8	10.6	8.0	333.0
1900	13.5	12.3	87.0	11.4	8.4	337.3
2000	13.5	12.0	83.5	10.8	8.1	334.8
2100	13.1	11.9	86.2	10.9	8.2	335.7
2200	13.1	12.0	87.4	11.1	8.3	336.6
2300	13.0	12.0	88.5	11.2	8.3	337.1

AD-A062 889 CALSPAN ADVANCED TECHNOLOGY CENTER BUFFALO NY F/G 8/10
REDUCED DATA FROM CALSPAN'S PARTICIPATION IN THE CEWCOM-78 FIEL--ETC(U)
OCT 78 E J MACK , T A NIZIOL N00019-78-C-0179
UNCLASSIFIED CALSPAN-6232-M-2 NL

2 OF 2
ADA
062889

END
DATE
FILMED
3 -79
DDC

DATE: 5 21 1978

TIME (PDT)	TEMP (C)	T WET (C)	RH %	DWPT (C)	MIX RATIO (G/KG)	R INDEX (UNITS)
0	12.9	11.6	85.5	10.6	8.0	334.7
100	12.9	11.8	87.9	11.0	8.2	336.3
200	12.8	11.8	89.0	11.0	8.2	336.7
300	12.9	11.6	85.5	10.6	8.0	334.7
400	12.8	11.3	83.7	10.1	7.7	333.2
500	13.0	11.5	83.8	10.4	7.9	333.8
600	12.9	11.6	85.5	10.6	8.0	334.7
700	13.2	11.4	81.0	10.0	7.7	332.3
800	13.7	11.8	79.6	10.2	7.8	332.4
900	13.7	12.0	81.9	10.7	8.0	334.1
1000	13.9	12.1	82.0	10.8	8.1	334.5
1003	13.6	11.9	81.3	10.5	7.9	333.5
1100	13.8	11.9	79.7	10.4	7.9	332.8
1200	14.1	12.0	77.7	10.3	7.8	332.1
1230	14.3	11.9	76.1	10.1	7.7	331.2
1405	16.3	13.0	68.9	10.5	8.0	330.1
1430	14.7	12.4	77.0	10.7	8.1	332.9
1500	14.8	12.3	74.9	10.4	7.9	331.6
1520	14.8	12.4	76.0	10.6	8.0	332.4
1545	14.3	12.2	78.4	10.6	8.0	333.0
1600	14.6	12.1	74.8	10.2	7.8	330.9
1700	14.6	12.4	78.0	10.8	8.1	333.4
1730	14.6	12.4	77.5	10.8	8.1	333.1
1800	15.0	12.3	73.0	10.2	7.8	330.6
2000	14.9	12.3	74.4	10.4	7.9	331.3
2100	14.4	12.5	80.1	11.0	8.2	334.5
2200	13.9	12.3	83.1	11.1	8.3	335.5
2300	13.9	12.0	80.3	10.5	8.0	333.3

DATE: 5 22 1978

TIME (PDT)	TEMP (C)	T WET (C)	RH %	DWPT (C)	MIX RATIO (G/KG)	R INDEX (UNITS)
0	13.6	11.5	78.4	9.9	7.6	331.3
100	13.6	11.8	80.7	10.3	7.8	332.9
200	13.1	11.3	80.4	9.9	7.6	331.7
300	12.9	10.8	77.4	9.1	7.2	329.1
400	12.9	10.9	78.0	9.2	7.3	329.5
500	12.9	10.8	76.8	9.0	7.1	328.7
600	12.9	11.2	81.5	9.8	7.6	331.9
700	13.1	11.0	77.0	9.2	7.3	329.3
800	13.2	11.0	76.5	9.2	7.2	329.1
900	13.3	11.6	82.8	10.4	7.9	333.6
1000	13.4	11.6	80.6	10.2	7.8	332.5
1100	13.4	12.1	85.8	11.1	8.3	336.1
1130	13.4	11.5	80.6	10.1	7.7	332.3
1210	13.4	11.4	78.9	9.8	7.6	331.3
1230	13.4	11.4	78.3	9.7	7.5	330.9
1300	13.4	11.0	75.5	9.1	7.2	328.7
1400	13.4	10.8	72.7	8.6	7.0	326.9
1430	13.4	11.0	75.0	9.1	7.2	328.5
1500	13.3	11.0	76.0	9.2	7.3	329.0
1600	13.4	11.0	74.9	9.0	7.2	328.3
1620	13.8	11.3	73.6	9.2	7.3	328.3
1700	13.9	13.5	95.8	13.3	9.6	344.8
1800	14.4	11.2	67.7	8.5	6.9	325.3
1830	14.6	11.3	66.9	8.6	7.0	325.1
2030	15.3	13.2	79.5	11.7	8.6	336.2
2300	14.2	11.5	72.8	9.4	7.4	328.6

DATE: 5 23 1978

TIME (PDT)	TEMP (C)	T WET (C)	RH %	DWPT (C)	MIX RATIO (G/KG)	R INDEX (UNITS)
0	13.6	10.9	71.8	8.6	7.0	326.6
100	13.2	10.3	69.8	7.8	6.6	324.4
200	12.2	10.1	77.5	8.4	6.9	327.7
300	12.5	10.2	74.8	8.2	6.8	326.6
400	12.5	9.6	69.6	7.1	6.3	323.0
500	12.8	10.2	72.2	7.9	6.7	325.3
600	11.8	9.5	74.8	7.5	6.5	325.2
700	12.5	9.4	67.4	6.6	6.1	321.5
800	12.5	8.8	61.2	5.2	5.5	317.4
900	14.6	10.5	59.2	6.8	6.1	319.2
1000	15.7	11.6	61.4	8.3	6.8	322.8
1035	14.9	11.2	63.6	8.1	6.7	323.1
1100	15.1	10.9	58.8	7.1	6.3	319.8
1200	15.0	11.7	67.3	9.0	7.2	326.1
1400	15.8	12.3	66.9	9.6	7.5	327.4
1500	14.1	12.4	82.1	11.1	8.3	336.4
1800	15.0	11.1	62.1	7.8	6.6	322.0
1900	14.1	10.5	64.2	7.4	6.4	322.0
2000	12.9	9.8	67.2	6.9	6.2	322.0
2100	11.9	9.1	69.1	6.4	6.0	321.7